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DESCRIPTIVE READING CASE STUDIES OF ADULTS SEEKING LITERACY IMPROVEMENT

by

© JUDITH ANN CRAIG

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Descriptive Reading Case Studies of Adults Seeking Literacy Improvement" submitted by Judith Ann Craig in partial fulfilment of the requirements for the degree of Master of Education.

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ABSTRACT

The purpose of this study was to describe both as individuals and as a group the personal characteristics and reading abilities of 16 English-speaking adults attending a course for the improvement of their literacy skills. To obtain the data two methods were employed. Firstly, a personal interview was conducted with each subject soliciting information on present reading concerns and goals as well as experiential and educational backgrounds. An interview questionnaire was developed specifically for the study. Secondly, a reading diagnosis was completed for each subject. Formal and informal tests were individually administered in order to establish present level of achievement, what cues, strategies or methods the subject used to process print (Reading Process) and what related factors were impeding reading development (Reading Correlates).

The individual data were summarized and compiled into case study format consisting of three parts: personal history, educational background, and a reading diagnosis.

The data were then analyzed to obtain the characteristics of the adults as a group.

The findings of the study indicated that two-thirds of the 16 adults were female, and one-half of the group were married. All of the subjects were English-speaking adults, though only 10 were born in Canada. Employment histories of the adults indicated that the largest number had held service jobs, followed by sales, clerical or production jobs.

The majority of adults were attending the literacy improvement course as a preparation for other courses required for matriculation. Long term educational goals included attending trade school, obtaining a good job, or acquiring more education. The majority of adults completed Grade 8 or higher, though only two graduated high school. Reasons varied for leaving school, but the largest number either quit because they did not want to continue or because they were needed at home or to help support the family.

Functional reading levels of the adults were established according to performance on the Adult Basic Learning Examination and the Slosson Oral Reading Test. Well over half of the adults had ability at or higher than junior high level. Of all the areas evaluated, spelling ability was the lowest for the group.

From the findings of this study, adults seeking literacy improvement are likely to be a heterogeneous group requiring a diagnostic-prescriptive approach in their instructional programs. Individualized or small group instruction would best meet such varied needs. Further research involving similar groups of adults in Canada is needed, as well as broader studies which investigate the educational needs of adults in a community.

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Chapter 1

THE PROBLEM: ITS NATURE AND SIGNIFICANCE

Introduction to the Problem

It is widely conceded that North American society is undergoing certain rapid changes with the advent of the technological revolution. The swelling stream of new knowledge has resulted in a shifting of labor activity from that of physical exertion to more demanding mental skills. The force of such a transformation has greatly affected the primary industries where the educational level of the work force is low. The number of people employed in the primary sector has dropped from 1.4 million in 1946, to 828,000 in 1976, with a further decline of 100,000 expected by 1970 (Bell, 1966). In point of fact, the number was 653,000 in 1977 as noted in a Statistics Canada publication, The Labour Force (November, 1977, p. 24).

A person living in modern society cannot hope to develop his economic potential without educational skills. This holds true for the other sectors of the person's life as well: fulfilling his personal and political responsibilities, developing his special capabilities, enjoying cultural and recreational opportunities. "Knowledge is power in this era of unprecedented complexity" (Knox, 1972, p. 100).

The relevance of reading to this new historical era has been noted by Rutledge (1970) who stated, "Those failing to acquire skill in reading are destined to become casualties of the technological revolution" (p. 10). The impact of new knowledge has resulted in the necessity of instructing the work force to such an extent that it is estimated "the average worker of today will have to be retrained three times during his career. And this retraining still appears to rely mainly on print . . ." (Ennis, 1970, p. 58). Intellectual obsolescence will be the common destiny of those who have inadequate literacy skills unless they are somehow motivated to acquire the requisite reading ability.

There is widening concern expressed in the literature over the number of Canadians whose educational deficiency affects the development of their potential (Bell, 1966; Webb, 1970). In order to illustrate the numbers involved, the following figures were taken from a recently completed project report sponsored by World Literacy of Canada (Thomas, 1976). These figures, extrapolated from 1971 Canadian Census data, represent the population fifteen years and over not attending school full-time with no other training:

Region	Total	Less than Gr. 9— No other training	% regional total
Canada	13,168,020	4,574,130	34.74
Alberta	958,215	249,830	26.07
Edmonton	293,390	62,100	21.2
Calgary	241,210	41,515	17.2

It is important to note that the census questionnaire merely asked the grade level completed, and no actual level of functioning was established. Some scepticism regarding the meaning of such statistical data has been expressed by adult educators (Summers, 1968; Harman, 1970; Otto and Ford, 1967). Research has shown that when people who stated completion of six or seven grades were administered achievement tests to determine their true level of functioning, over 50 percent were found to be functionally illiterate, i.e., unable to read and write well enough for reading to be of practical use (Hilliard, 1963; ABE Report, 1968). Grade level completion, therefore, does not ensure attainment of the literacy skills requisite to that respective grade level. Even the figures noted previously may well be understating the problem in Canada if there are large numbers in the population who have received more than a grade nine education but who do not have grade equivalent literacy skills.

What is an appropriate conception of literacy and what functional levels are required by North American society? The United Nations Population Commission's Third Session (1948) established an early definition of what it meant to be literate. Their recommendation was that "Literacy be defined for purposes of international comparison as the ability to both read and write a simple message in any one language" (Fundamental and Adult Education, 1957, p. 3). It is obvious that however useful such a definition may be for world census purposes, it is not wholly adequate as a measure of functioning ability in North America. For instance, a person with such minimal ability in written language would find few opportunities for fulfilling employment in any industrialized country. Nor could he take sufficient advantage of its written culture.

Educators in the more developed countries began to define literacy in terms of their society's requirements, and one who could meet those requirements was termed a functionally literate person. Otto and Ford (1967) stated, "The functionally literate adult is one who is able to read and write with relative independence. That is, he has mastered the essential word recognition skills in reading and the letter forms in writing and is able to use these skills as tools for obtaining information and expressing his own thoughts" (p. 3). This definition is impractical for assessing large populations, as it would entail individual evaluation procedures. An earlier though more applicable definition was presented in a UNESCO publication, Literacy and Education for Adults (1964): "Any Canadian who knows 'the three R's' sufficiently well for the Grade IV level is regarded as literate, but only when he reaches Grade VIII ability has he sufficient basic knowledge to continue his own education or undergo training in voc-tech skills" (p. 29). As well as contrasting the 'minimally' literate and functionally literate by grade levels, the latter definition recognizes measurable ability at the grade level to be pertinent. And if, as observed earlier (Ennis, 1970), the work force will have to be retrained three times per individual career, the Grade 8 ability criterion is a minimum expectation. Cortwright and Brice (1970) support the Grade 8 ability level as the minimal requirement for functioning in North America's industrialized society. Yet Summers (1968) cautions that "for those who are mentally competent, less than twelve years of school holds meagre promise" (p. 4).

It would appear then that, based on the foregoing assessments, the figures reported by Thomas (see p. 2) describe a population of adults who either barely meet or fall short of the literacy requirements of Canadian society.

The importance of functional literacy, however, does not pertain only to those in the work force, nor to only those aspects of life related to employment. While much information can be obtained through television and radio, man, as a political being, must be able to read and comprehend information presented in print in order for him to fulfill his wider social responsibilities, not to mention develop and enjoy his innate potential. The required level of functioning is established according to "the extent one's literacy skills allow one to meet society's normal demands" (UNESCO, 1972, p. 2), and to that level which allows the "individual to extend his range of knowledge" (Fundamental and Adult Education, 1957, p. 6).

Based on a study he conducted in the United States which evaluated the ability of Americans to cope with common everyday experiences, Harris (1971) estimated that from 4.3 to 18.3 million Americans are functionally illiterate. His interview survey of adults age 16 years and over tested the ability to read with understanding telephone dialing instructions, classified housing and employment ads, and various application forms like those used to request social services (i.e., unemployment insurance and social security benefits, bank loans, etc.). Harris noted that while at least 4 percent of the population was seriously hindered in the ability to complete these tasks, many others had great difficulty with the items. Information of the type provided by this study has been sorely lacking, yet the need was expressed by many educators including Gray (1968) who noted that "few studies have been made to discover the types and levels of efficiency in reading and writing that modern life demands" (p. 9).

It seems apparent that programs must be made available to North American adults who lack functional literacy. "This population has been largely ignored in the recent upgrading of education," observed Summers (1968) who further added, "The need to improve the quality of education for them is no less urgent than the need to improve education for those currently in school" (p. 2).

In a survey of adult education courses available in Edmonton in 1970, Garrett found a paucity of reading improvement courses for people with inadequate reading skills. Public agencies reported more than 600 social programs serving myriad needs and interests, only one of which was a course teaching basic reading skills to anyone who desired such assistance. Private and professional organizations reported no courses that augmented opportunities in this area. Furthermore, Garrett noted that no evidence was found that courses were provided as the result of any study of community needs and that the decisions as to what courses were to be provided were made by administrative and teaching staff of each agency.

These findings prompted Garrett to express the following: "A comprehensive study of the educational needs of the adults in the community is suggested as urgent. Expansion of services is needed at different levels, but without a study of community needs, expansion, in an ordered sense, is unlikely" (p. 158).

The Problem

The 1971 census data suggest that there are large numbers of adults in Edmonton with limited years of formal education (Statistics Canada, 1974). While many of these adults may indeed have the ability to 'teach themselves' anything they need or desire to learn, such ability is primarily based on having acquired skill in reading. The concern of this study is on those adults who most likely do not possess the means to readily obtain information from print, and therefore need assistance in acquiring or improving reading skills.

While it appears that at present there is limited opportunity in Edmonton for those seeking teacher-directed aid (other than that of a private tutor), provisions for such assistance must be made available in the near future. In order for an effective program to be developed, administrators need specific information on the characteristics of adults who would seek a reading improvement course. Then, decisions could be made as to necessary qualifications of teachers, suitable instructional materials, appropriate program scheduling, and effective physical facilities (e.g., proper arrangement of the classroom, based on whether the instruction would be primarily individualized, grouped, or given to the class as a whole).

Little research has been done on the characteristics of adults with reading problems, and what their specific needs and goals are. No such research has been conducted on the Edmonton population, nor to the writer's knowledge, on adults anywhere in Canada. Such a description, therefore, is needed for purposes of social policy planning.

In 1974, a course was instituted by the Continuing Education Department of the Edmonton Public School System for English-speaking adults seeking improvement in literacy skills. The classes, offered to both day and evening students, were taught by former high school teachers experienced in adult education. However, neither teacher had ever taught developmental reading. There was no curriculum other than the expectation that the teachers meet the expressed needs of the students. This study was designed to investigate the characteristics of the adults attending that course.

The Purpose of the Study

The purpose of this study was to describe the personal characteristics and reading abilities of English-speaking adults attending a course for the improvement of their literacy skills. The study will describe the adults both as individuals and as a group.

Major Questions to be Explored

1. What are the selected sociological characteristics of adults seeking assistance in a course designed to improve literacy skills?

2. What are the expressed concerns and goals of adults in such a group?

3. What are the educational or experiential factors which may have affected development of their reading ability?

4. What are the functional reading levels of the adults in the study?

5. What strengths and weaknesses are exhibited by the adults when confronted with reading related tasks?

6. What program objectives are suggested by the case studies and group analyses that would best meet the educational needs of adults interested in improving their literacy skills?

Definition of Terms

For the purposes of this study, the following definitions, descriptions, and testing measures were used:

Adult subjects were the enrolled members of a course developed for the purpose of improving the literacy skills of English-speaking adults.

Functional reading level was considered to be equivalent to the grade scores obtained on the *Adult Basic Learning Examination* (*ABLE*) and *Slosson Oral Reading Test* (*SORT*).

Reading diagnosis was an analysis of a person's reading to determine:

(a) present level of functioning in selected areas (achievement),
(b) the cues, strategies, and methods used to process print (process), and
(c) what factors may be facilitating or impeding his reading progress (correlates).

Achievement tests were those instruments designed and used to evaluate the level of functioning in the skill area being tested. The scores reveal how one's ability compares with that of the representative group of students on whom the test has been standardized. The skill areas tested and the specific tests used are briefly presented below. (All of the tests utilized in the study are described in detail in Chapter 3.)

A. Sight word recognition using the
Slosson Oral Reading Test (SORT)

B. Vocabulary using the Vocabulary subtest of the
Adult Basic Learning Examination (ABLE)

C. Reading comprehension using the Reading subtest of the
Adult Basic Learning Examination (ABLE)

D. Spelling using the
Schonell Graded Word Spelling Test, Form A

Reading process tests were those instruments used to investigate subcategories of the major skill areas of word recognition and reading comprehension. Areas examined and tests selected were:

A. Auditory discrimination using the
Wepman Auditory Discrimination Test, Form I

B. Visual discrimination using the
Huelsman Word Discrimination Test, Form B—ALTA
Monroe Diagnostic Reading Examination—Word Discrimination

C. Structural analysis using
Bond-Clymer-Hoyt Syllables Test
This is a subtest of the Bond-Clymer-Hoyt Developmental Reading Tests.

D. Oral reading accuracy using
   Gray Oral Reading Test, Form C
   and other paragraphs selected from various sources specifically for the study.

E. Use of context using
   CLOZE tests (adapted from various sources specifically for the study)
   ABLE, Levels I, II

F. Comprehension skills using
   ABLE, Level III
   Gray Oral Reading Test, Form C and/or paragraphs selected for the study.

Reading correlate tests were those instruments that investigate psychological processes requisite to reading. The correlates examined in this study and instruments used include:

A. Visual memory using the
   Monroe-Sherman Visual Aptitude Test—Letter Memory

B. Auditory memory using the
   Detroit Aptitude—Test 13, Auditory Attention Span for Related Syllables

C. Language ability using selected informal measures which evaluate oral expression and written expression ability. See Chapter 3 for a detailed description.

Assumptions

The following assumptions were made:

1. The adults in this Edmonton study are representative of those adults in similar large urban centers in Canada who seek help in developing their literacy skills.

2. The interview questionnaire is a valid device for obtaining from adults the information solicited therein.

3. The testing instruments selected for use in this study are appropriate measures to diagnose reading ability in adult subjects.

Limitations of the Study

This study was limited to English-speaking adults enrolled in a literacy improvement course offered by the Edmonton Public School System during May, 1975, and further limited to those adults who volunteered to participate in the study.

Also, though an attempt was made to obtain equivalent information from each participant, any failure to do so was the result of the primary consideration of respecting the person's right to refuse to answer.

Significance of the Study

An attempt to identify the characteristics of adults seeking assistance for their reading difficulties is essential if:

(a) the unique literacy needs of adults are to be considered and met,

(b) suitable courses are to be developed by administrative personnel, and

(c) each adult student is to reach his potential in terms of literacy.

For this reason, the investigator believes a descriptive study of such adults is necessary, and that such a study would be of benefit to administrators, adult educators, and adults seeking assistance in the future.

Design of the Study

A brief description of the sample, data collection, and data analysis is presented in this section. Each topic is further elaborated in Chapter 3.

Sample

Sixteen adults volunteered to participate in the study. All of the subjects were enrolled in a literacy improvement course offered to day and evening students by the Continuing Education Department of the Edmonton Public School System.

Data Collection

To obtain comparable descriptive data on the personal concerns and goals, as well as the experiential and educational backgrounds of the participants, personal interviews were conducted. For this purpose, a questionnaire was developed specifically for the study.

Following each interview, formal and informal tests were individually administered in order to obtain information on the subject's reading ability. The tests examined achievement, reading process and reading correlates (see Definitions of Terms).

Data Analysis

Each interview was recorded and transcribed and the administered tests marked and analyzed. The information was summarized and presented in individual case study format. Each case study consists of three parts: personal history, educational background, and a reading diagnosis.

The individual data were then analyzed to obtain the characteristics of the adults as a group. The information was categorized into three general areas. The first area presented the sociological characteristics of the adults as a group. The second area reported group performance on the four achievement tests followed by a comparison of the group's performance on the achievement tests. The third area considered relationships between selected background factors and ABLE—Reading scores.

Organization of the Thesis

The present chapter stated the problem and purpose of the study. Major questions to be explored and definition of terms were provided. The assumptions, limitations, and significance of the study were discussed, and the design of the study presented. The remainder of the study is organized as follows:

Chapter 2 presents the background of the study which includes a review of the literature and research studies relevant to the study.

Chapter 3 describes the adult sample participating in the study, the interview questionnaire, and the tests utilized in the collection of data.

Chapter 4 contains the findings presented as individual case studies.

Chapter 5 presents the findings of the study for the adults as a group.

Chapter 6 summarizes the findings, and states the conclusions, implications and suggestions for further research.

Chapter 2

REVIEW OF RELATED LITERATURE

In order to provide a background of information for the study, this chapter presents a review of the literature and research studies relevant to describing adults with limited literacy skills.

A general discussion of adult learners is presented, followed by a more specific investigation of Adult Basic Education (ABE) students as described in the literature.

Research studies whose purpose was to describe ABE student characteristics were reviewed. Those that used questionnaires are discussed first. Studies that used personal interviews to obtain data are then considered.

Finally, the rationale for using reading diagnosis in the study is presented, and the specific procedure incorporated is described.

Adult Learners: General Discussion

In providing a background for the present study, a review of the literature pertaining to the adult as a learner was undertaken. Some major points have been selected as being relevant to this study.

The cognitive domain of the learning process as related to adults as learners was investigated. Dickinson (1973) reviewed the work on general learning ability of adults completed by Thorndike and Lorge. Thorndike reported in 1928 that the peak of learning ability occurred between age 20 and 30 with a 13-15 percent loss of ability by age 42. Lorge, however, maintained that intelligence tests with rigid time limits discriminated against adults whose speed of performance was lessened. He substantiated this claim by developing an untimed intelligence test and found no loss in general learning ability with age. Lorge noted the peak of learning ability appeared to be at age 20, with the scores remaining consistent thereafter. Though Dickinson noted other studies reported a slow but steady decline in adult learning ability, it appeared to be of lesser importance than the change in speed of learning. He concluded the research indicated that educators planning programs for adults must take into consideration the reduced learning rate of adults and its ramifications on the instructional process.

Since this study included the examination of reading ability in a selected group of adults, an awareness of the factors relevant to adult learning ability was deemed useful. The foregoing suggested to the writer the advisability of using untimed tests with the adults. This was accomplished by careful test selection, with one slight exception (see Chapter 3, ABLE, Reading, Level III).

Dickinson noted other criticisms Lorge had of Thorndike's work, i.e., that it measured a cross-section of adults at one time without taking into account that the 20 year old adult's education was more recent and much greater than the education of the 60 year old adult. As the present study would also be evaluating a cross-section of adults whose reading ability was low, one aspect believed necessary for inclusion was the investigation of the educational background of each adult, with resultant effects noted on their present ability. The importance of such consideration was established by Lorge when he found that the amount of formal education received was related to performance on intelligence tests. When he retested men in 1941 who were formerly tested as eighth graders in 1921, he found those who had completed their formal schooling (Grade 12) received higher scores than those who had dropped out after eighth grade, with other factors remaining relatively constant. While this study is not directly concerned with intelligence levels, the relationship between formal education levels and reading ability will be examined.

A second major area to be considered when viewing adults as learners was that of the effects of their life experiences. It is obvious that people learn from what they do and when evaluating adult ability, the importance of their occupation in the interim years must be considered. Flavell (1970) concurred, noting the most important cognitive changes were probably the result of just such life experiences. The role of experience is one of the main differentiating characteristics between the teaching of man (andragogy) and the teaching of children (pedagogy) according to Knowles (1973). He noted other differentiating characteristics, each directly related to experiential factors, which included: (1) changes in self-concept, resulting in growth from total dependency to independence, (2) a readiness to learn, which is related to an awareness of the tasks required for the performance of evolving social roles, and (3) a problem-centered approach to learning, as a result of changing time perspective (i.e., the application of learning must be related to the present, as opposed to the future-oriented learning of children). The same points were basically reiterated by Cass (1967), Brazziel (1969), Murphy (1969) and Dickinson (1973). Since the effect of experience on adults as learners is of major importance, investigation of such factors has been included in the interview questionnaire of this study.

The interests, attitudes and values which adults bring to the learning process differ greatly from those of younger students. In fact, the affective domain in adult students influences the learning of cognitive behaviors to such an extent they are practically inseparable, and as such, should be of relevance to adult educators. To appreciate the ramifications of the affective influences on adult learning, the following points expressed by Bergevin in A Philosophy of Adult Education (1967, p. 122) are germane:

1. Adults come to a learning program with a more definite 'set' than children;
2. Adult personality is more permanently fixed for good or ill;
3. Adults have more emotional connections with words, situations, institutions, and people than do children;
4. Many adults bring negative feelings with them to the learning situation because they resent authority;
5. Adults are more under the burden of certain stereotypes, like personality and beliefs, than are children. . . .;
6. Inadequacy and failure is more likely to be in the forefront of an adult's mind . . .;
7. The adults may see new learning as more of a threat to the balance and integration he has attempted to achieve;
8. Most adults must rather quickly see more relevance and immediacy of application than children do;
9. A group of . . . adults will usually have more variations in skills, interests, experiences, and education than a similar group of children. . . .;
10. Adult attitudes are difficult to change . . .;
11. Learners always look at situations, not necessarily as they are, but as they perceive them to be.

Even a cursory glance by an educator at these statements would cause him to reflect on the effects such attitudes would have on an instructional program. As such, they are relevant to this study in that they suggest an individual diagnostic-prescriptive approach to evaluating reading needs, as incorporated in this study, would be most beneficial for adult learning programs.

To summarize the major points discussed in this section:

(a) Adult learning ability remains fairly consistent after age 25, though a reduction in speed of performance is noted.

(b) Adult learning ability is influenced by the number of years of formal education completed, and by the recency of that education.

(c) Adult life experiences are related to present ability and performance and are pertinent to instructional program development.

(d) Adults as learners are psychologically different from children as learners, in part due to changes in the affective domain.

(e) All of these factors give credence to the conclusion that adults as learners are a heterogeneous group.

These points provide the groundwork upon which the study has been built. As learning ability shows no serious decline with age, a program of adult education is practical. Knowledge of the years and periods of education, the life experiences and the interests and attitudes adults bring to the learning process has been found to be relevant, and therefore these factors have been included as areas to be investigated in this study.

The following section presents information on Adult Basic Education (ABE) students in particular. As ABE is a relatively new concept in adult education, information on the students is somewhat limited. Knox (1967) noted that the vast majority of adult educators had no contact with ABE until recently. He further concluded that programs of ABE have had limited effectiveness especially in accommodating approaches and methods to the unique characteristics of the category of adult learners who were not functionally literate. With this in mind, the information provided in the literature will be examined in the following section.

Adult Basic Education Students

Adult Basic Education (ABE) programs were initiated to provide instruction in basic reading, writing, and computation skills to adults who have not acquired or have not mastered these skills. The Edmonton Public School System however offers two separate courses: one for basic math, and one for upgrading literacy skills. The need for such course offerings is serious, as those adults lacking functional literacy skills are limited in their ability to cope within North American society. Beyond their own concerns for personal fulfillment, society must reflect the loss of productive members. "A meaningful work role for these people is virtually out of the question because they do not possess the basic skills needed to get and hold a job" (Nunney, 1969, p. 3).

It is a difficult task to come to an understanding of who ABE students are. Knox (1967) noted that few conclusions or generalizations regarding ABE students were supported by available research. Glass and Hoffman (1975) too found the results of their survey of literature and research studies to be wholly inadequate. They found that most of the studies dealt with institutionalized adult learners, making it difficult to generalize to the more normal ABE learners. Furthermore, they found the orientation of the literature seemed to focus on the urban black learner, which limited attention to "the most statistically likely ABE learner [who is] white, rural, and middleaged" (p. 59). In calling for a greater emphasis upon research generated within ABE itself, the authors believed "the last decade should have produced enough effort and experience in ABE to make this possible—and enough concern to make it needed" (p. 60).

The present study is an attempt to delineate the "more normal" ABE student by focusing on those adults who are active members of Canadian society and are seeking assistance in developing their literacy skills. A study recently completed by Thomas (1976) established that a 'typical' Canadian in 1971 with no more than eight years of schooling (a likely ABE student) would probably be in his fifties, Canadian-born, and living in a center of 1,000 people or more (p. 42).

The literature does provide information on the ABE learner, though it is of a general nature, and it comes from people who have worked with them for the past decade. Though based primarily on observation and field experience, such data can, nevertheless, serve as an introduction to the ABE learner.

A point often discussed in the literature is why, in an era of mass education, there are adults who have not obtained the necessary literacy skills. In attempting to answer this question, Webb (1970) found "no single cause, or general cause, but that anyone of a wide variety of causes, or a combination of them, may have brought formal schooling to an end before basic literacy had been achieved" (p. 9). He was, however, able to group the causes into three categories: Institutional, Economic, Personal.

Within the category of institutional causes for lack of literacy he included: inadequate resources in the school (books, teaching aids, teaching staff), poor curriculum implementation, social characteristics in schools that militate against students who are 'different,' and inflexible systems reflecting established middle class society which do not meet the needs of those communities which vary from the actual or theoretical standard.

Webb cited economic causes too, as an important factor in Canadian society, particularly for middle-aged adults. Poverty in the home, requiring school-age children to earn money, caused many to leave school early. Also, local industries not requiring highly educated employees provided a wide-spread cause. Webb specifically mentioned examples such as fishing, mining, trapping, forestry, and agriculture industries.

Finally, Webb considered personal causes of sub-literacy. Low level intelligence was one important factor. Other factors included parental disinterest in education, poor motivation, and little desire to advance or succeed in academic work.

One aspect Webb did not mention was the possible effect our large immigrant population might have on literacy levels in Canada. Some countries simply do not provide the educational opportunities such as those available in Canada. Even for those people who came to Canada as children, the difficulty of learning to speak the English language, as well as read and write it, must not be underestimated.

The causal factors cited by Webb ring true, yet substantiation of such observations is required. For that purpose, the present study solicits the reasons or causes each subject believes are the basis for their current literacy difficulties. Such data are pertinent when attempting to understand who ABE learners are.

A second question raised when ABE programs were introduced pertained to the reasons the students attended the courses. Many of the students had previously experienced failure within the educational system; many would have to admit low literacy levels and put forth a great deal of effort to progress in reading. The reasons adults surmount these and other obstacles and return to ABE classes were discussed by Harris (1972). She noted four main factors which are summarized below:

1. The change in production functions to an increasingly technological mode requires a skilled trainable work force. Such training usually depends on manuals to instruct the employees.

2. The supply of hard labor requiring unskilled workers is steadily decreasing.

3. The move to advanced machinery and automation further limits employment possibilities for the unskilled.

4. Personal reasons cause many adults to seek more education. The specific reasons cited by Harris included: parents who are interested in helping their children with school work, grandparents who never before had a chance to receive an education, and retired people wishing to read the Bible, or newspapers.

The rationale behind seeking basic education appears to be related either to employment or personal factors. The current study investigated the reasons the adult participants were returning to school. Such knowledge is required by administrators who must provide programs for such adults, as the program objectives would vary depending on the aims of the students.

Another area to be considered in the attempt to understand the ABE student was that of goals. It is obvious that broad statements pertaining to the goals of such a heterogeneous group would be inappropriate. However, Cass (1971) found certain expressed goals to be common to many enrollees. They are as follows:

> 1. The desire to acquire a skill in order to become employable.
> 2. The desire to learn or improve a skill and an ability to do something better.
> 3. The desire to raise one's economic level by acquiring a certificate or diploma.
> 4. The desire to develop facility in the use of English.
> 5. The desire to acquire a sense of accomplishment, satisfaction, and dignity. (p. 45)

The participants in the current study were asked during the interview to communicate their goals in the literacy course. Again, such knowledge would have ramifications for program development, and as such, was considered an important area of investigation.

Summary

This section presented information on ABE students which was based on the observation and field experience of adult educators. Though it appears there is a minimum of research available which would enable a definition of an ABE student to be drawn, pertinent aspects were discussed, including the causes for present sub-literacy levels of ABE students, the reasons adults were seeking more education, and the expressed goals of ABE enrollees. All of these points need substantiation through research that investigates the ABE learner, and therefore questions soliciting such information have been included in the study's questionnaire.

Research-based Studies on the Characteristics of ABE Students

In developing programs for ABE, adult educators have learned much through the process of trial and error. Due to the expansion recently in ABE, there is current interest in obtaining knowledge as a basis for increasing program effectiveness (Glass and Hoffman, 1975; Knox, 1967). This knowledge base must include data on the clientele of the courses. As the current study hopes to add pertinent information regarding ABE students to this knowledge base, an examination of previous research studies relevant to the study was undertaken. Those studies are now presented.

Studies Using Questionnaires to Obtain ABE Student Characteristics

A survey of non-governmental agencies in the United States involved in ABE was conducted by Firoza (1966). Of the 600 agencies contacted, he received 270 respondents. He found attending adults were almost evenly divided by sex (48 percent male, 52 percent female) and by race (51 percent white, 49 percent non-white). The age range findings indicated considerable spread with no definite enrollee age level. The percentages according to age groups were: 18-25 (26 percent), 26-40 (40 percent), 41+ (34 percent). Though limited in scope, this survey provided a basis for comparison, especially since it was one of the first of its type. However, with less than 50 percent of the agencies responding, generalizability is questionable.

United States government-sponsored ABE statistics have been reported regularly. Osso (1973) presented the statistics for the fiscal year 1971 and selected summaries of fiscal years 1967-1971. The information was gathered from the annual program reports submitted by each state.

The participant total for the 5 year period was 2,855,826, with 53 percent of the enrollment female. The ages of the adults remained fairly consistent for the 5 years, with the exception of the 18-24 age group which showed a low 18 percent in 1967 up to 30 percent in 1971. The 25-34 age group remained at approximately 25 percent. The remaining age groups decreased in attendance yearly, but the 65+ group comprised 3-4 percent of the participants annually. Race statistics were affected by the fact that a large number of the enrollees were not classified. Of those classified in 1971, 54 percent were white and 35 percent were negro.

Both studies serve to provide factual information.

Interpreting their findings, one finds that both men and women feel the need to upgrade their skills. Whereas one might have always presumed men needed improvement for job-related reasons, the large influx of women entering the work force recently is finding that more education is needed in order to obtain satisfactory employment. Also, while negroes have been considered more likely to have suffered a lack of education for myriad reasons, and would need upgrading, statistics indicated a large segment of the white populace also seek improvement. Finally, the age group statistics provided surprising information. It was the young and early middle-aged adult who was predominantly seeking improvement. While it most likely is the older (40+) people who have the least formal education, the younger adults' interest in improving must reflect the change in society's requirements for its work force—that of an increasingly educated one.

With these trends and statistics in mind, studies which sought more specific information were examined.

Stauffer (1974) investigated both tutor and student characteristics of the adults involved in a United States national volunteer literacy program (The National Affiliation for Literacy Advance—founded by Laubach). He divided the 5,079 volunteer tutors into 105 groups according to geographical area to obtain his population of 1,565. Selecting a random stratified sample from those tutors presently working with adults, his sample became 1,000 tutors and 1 each of their students. He used a mail questionnaire which sought, from both tutor and student, information regarding personal, occupational, educational and program (i.e., hours taught, lesson progress) characteristics. The respondents numbered 509.

The tutors were a relatively homogeneous group. They were predominantly white, college-educated females, between 40 and 60 years of age.

The students were evenly divided by sex and of an average age of 35, 65 percent in the 21-40 age group. Sixty-two percent were English-speaking, 32 percent were literate non-English speakers, and 6 percent were non-English speakers illiterate in their native language. The student populace was 45 percent white, 25 percent Mexican-American, 24 percent black, and 6 percent Oriental. Their occupational characteristics reflect the relationship between education and job level. While over half were currently employed full-time and were the chief wage earners of the household, their mean personal income was $5,136. The greatest percentages of job categories (other than no data—39 percent) were operatives, 21 percent, or service, 12 percent.

The primary reason given for being in the program was self-improvement, followed by job-related reasons. Educational goals were to: (a) finish skill books—32 percent, (b) finish high school—25 percent. In stating why they did not graduate, 19 percent stated they had to go to work and 15 percent found it too difficult (no data given—44 percent).

This study, while providing general information similar to that obtained by Firoza (1966) and Osso (1973), sought more extensive data, notably in the areas of job categories, reasons for enrolling, educational goals and reasons why the adults did not graduate. However, the percentage of 'no data given' responses certainly affected the validity. It appears that while mail questionnaires have the advantage of claiming large subject numbers, and may be useful in some studies, when attempting to obtain information from adults with little or no reading ability, other means might be more appropriate.

The present study was limited in subjects to the number that could be personally interviewed and tested by one researcher. As well, more extensive data on each subject were sought.

Studies Using Personal Interviews to Obtain ABE Student Characteristics

In his doctoral study investigating the educational goals and motivations of participants in volunteer literacy education programs, Buttz (1968) interviewed 42 students. The 31 males and 11 females ranged in age from 16 to 69, twenty under the age of 30. One-third of the participants had completed Grade 3 or less; all the others had completed Grade 6 or higher, two having graduated high school. Thirty students hoped to finish high school, and almost the same number planned to stay in their present job, indicating their return for more education was not primarily job-related, though the mean personal income was only $3,859.

When asked for reasons why they could not read, 13 students replied, "home influence," 12 stated the failure was due to the school or former teachers, 8 said themselves, and 4 stated health reasons.

Buttz' interview questionnaire had only 28 general questions which somewhat explains the lack of depth this study provided, particularly in the area of educational background. The answer "home influence" does little to explain why one can't read. Therefore, the current study planned a more extensive questionnaire seeking more specific, pertinent answers, as well as including a diagnosis of reading ability.

Another study which focused on the characteristics of illiterate adults involved in a voluntary improvement program was conducted by Flaherty (1970). The purpose of her descriptive study was to determine implications for training volunteer tutors. She interviewed 48 students regarding educational background, reasons for attending, personal history, and the degree help was obtained in the program. Thirty of the 48 could not read beyond the Grade 3 level, as tested on the Adult Basic Learning Examination (ABLE).

Her total sample consisted of negroes, 62 percent were female, who ranged in age from 16 to 85, the median age being 50. In giving reasons for attending, at least half gave one of the following answers: (1) to learn, or to get a better education, (2) to learn to read better. Other reasons included learning to count and figure, correct speech, better writing skills. The educational background of the participants was limited, primarily due to the fact that 90 percent had lived in the rural South as children. Ten of the 48 completed one grade or less, 12 completed two to three grades, and 12 completed four to five grades. None went higher than Grade 10. More than half were 14 to 16 years old when they quit school. Reasons given for leaving school varied, but the majority left to seek employment. Other reasons given included: to help at home, being pregnant and/or getting married, distance, poverty or sickness. Only three stated lack of interest as a reason for leaving.

The jobs held by the participants again illustrate the relationship of education and employment ability. Thirty of the adults held full time jobs, evenly divided by sex. The others worked part time, were retired or disabled, or were housewives. Jobs of the women were as follows: domestic or hotel maids (N = 7), factory or laundry (N = 4), nursery aide (N = 3), kitchen work or waitress (N = 2). The men held jobs typed as factory (N = 5), custodial (N = 3), clerical (N = 2), shipping/warehouse (N = 2), construction and labor (N = 2), and truck driver (N = 1). Salary levels were very low. Eighteen adults made less than $2.00 per hour, 9 made less than $3.00 per hour. Only one made over $5.00 per hour.

Flaherty's study was the most extensive of the research examined. As a source of information for Canadian administrators or adult educators, it is not, however, particularly useful. The fact that all of the participants were negroes, 90 percent of whom were raised in the rural South, limited generalizability to an urban center in western Canada. The study does, nevertheless, serve to point the way for obtaining a description of adults with limited literacy skills. The questionnaire used by Flaherty was used as a guideline for the present study's questionnaire.

As noted previously, the purpose of Flaherty's descriptive study was to determine the implications for training volunteer tutors. In summarizing the data, Flaherty noted four areas the tutor must have as a knowledge base in order to best help the students. These areas were:

(a) Background of the students

(b) What the student knows or can do well

(c) What kinds of things the student needs or wants to learn

(d) How to teach—materials, methods, techniques.

The personal interview, used in Flaherty's study and selected for the present study, does supply information on (a) student background. It does not provide adequate information on (b) or (c). This researcher believes that only a reading diagnosis can provide such information, and that following such a diagnosis, selection of materials, methods, and techniques would be most practical and beneficial. Furthermore, the information provided by both an interview and reading diagnosis would be necessary at the administrative level, for purposes of planning courses, selecting instructors, allocating time and student/teacher ratios. For these reasons, the present research used both the interview and reading diagnosis as tools to obtain the most complete description of the adults in the study.

Rationale for Reading Diagnosis

The purpose of this study was to describe the personal and literacy characteristics of adults who were attending a course for the improvement of their literacy skills. It was designed to obtain as much information as possible on the adults in order that administrators involved in program planning could best meet the needs of similar groups of adults. The previous sections have discussed adult learners and ABE students as well as presenting studies which have investigated the characteristics of ABE students. Those research-based studies which utilized the interview method were found the most effective and extensive. Therefore, this study selected a personal interview as the appropriate method for securing the requisite personal information. That such a method could and should be used in ABE programs has been argued by Torrence (1971). He believed the ABE teacher must "understand the conditions, home life, problems, hopes, needs, and interests of their adult students," and furthermore added that without such information "teachers will not be able to provide quality instruction for their students" (p. 165).

For the most effective ABE program to be initiated, however, other considerations of importance should be incorporated. Firstly, adults attending an ABE program must be viewed for the most part as needing a remedial program rather than a developmental one. By their enrolling in such a course, they are admitting that, in their own judgment, they have a deficiency in reading ability.

Secondly, the complexity of the reading act, the nature of reading difficulties, and the myriad experiences that have a bearing on reading success make it clear that no two cases of reading disability could be exactly alike. "It is, therefore, apparent that any attempt to give remedial instruction must be based on an adequate diagnosis [of the reading disability]" (Bond and Tinker, 1967, p. 165).

Given, then, that adult learners as a group are heterogeneous and independent, programs must be suited to meet their particular needs, especially in reading. Therefore, a program which was diagnostically-based, and by definition individualized, would seem most likely to meet those needs. As Irish (1975) noted, "Providing learners with an opportunity to identify their particular problems, helping them to acquire needed knowledge and skills, and encouraging them to take practical action to resolve the problems will provide a focus of ABE instruction which maximizes both the usefulness of ABE classes to the learners and the development of increased self-awareness and social consciousness" (p. 130).

The information acquired in a diagnosis would allow an instructor to meet the criteria stated by Irish and provide effective instruction. Therefore, it was utilized for the collection of data in this study.

It must be noted that both the interview and reading diagnosis have been assimilated in many ABE programs. Fulker (1968) established that many United States government-sponsored reading programs include individual interviews and discussion sessions as well as a battery of standardized and informal reading measures as integral components. Most of those programs solicited information on educational background, the types and amounts of reading done or required, and reading interests. In addition to basic reading tests, visual screening and vocabulary tests were often used.

However, when two major government-sponsored programs were investigated for this study, both were found lacking, to some degree, with respect to the criteria stated by Fulker. Information on the Job Corps Literacy Program (Argento, 1969) and the Reading Program at Civilian Conservation Centers (LaPlante, 1969) indicated that both used a 13 minute reading placement test as a screening device. Based on test performance, subsequent screening tests were given, though they were not described in either article. Personal information was obtained primarily through service forms. As most of the trainees in these programs were young (16-21 years) and had a history of poor educational progress, a more complete reading diagnosis seemed to be warranted. As well, information on educational background, goals and interests, and attitudes toward education would be pertinent to developing the best program, all of which point to an interview or personal discussion to obtain such data. Still in all, it does appear that 'knowledge of students' accompanied by 'evaluation of reading ability' are methods being tried to some degree in ABE, and aid administrators and teachers in providing the most effective instructional programs.

One final consideration pertinent to providing effective literacy programs would necessarily involve an understanding of the characteristics of a 'fully literate' adult, who might be defined as one who was capable and interested in reading a broad range of materials, and derived pleasure in doing so. The ever present goal of such a reader would be the acquisition of knowledge, as an end in itself. To reach such a plateau, certain skills and abilities must be mastered. This stage would be followed by another equally important stage—that of applying such knowledge by making the act of reading a part of one's life.

The first or fundamental stage is learning to give "the significance intended by the writer to the graphic symbols by relating them to one's own fund of experience" (Dechant, 1970, p. 19). It entails the ability to recognize or decode words whose nuances of meanings are understood by the reader enabling him to grasp the author's meaning both literally and interpretatively and ultimately evaluate the author's message relative to his own experience. Obviously, the act of diagnosing involves examining a reader's ability or lack of ability in each of these areas. As all the abilities are interrelated, a lack of skill in any one area necessarily affects the reading process.

The second stage is somewhat harder to define, since it involves all of the foregoing abilities taken to a higher degree, accompanied by the intrinsic interest factor of each individual. Gray and Rogers (1956) surveyed the literature and concluded the following characteristics helped to distinguish a mature reader:

> 1. A genuine enthusiasm for reading.
> 2. Tendency to read (a) a wide variety of materials that contribute pleasure, widen horizons, and stimulate creative thinking; (b) serious materials which promote a growing understanding of one's self, of others, and of problems of a social, moral, and ethical nature; and (c) intensively in a particular field relating to a central core. (pp. 54-55).

For the most part, the attainment of the second stage was not evaluated formally in this study. Information as to personal habits, interests, and goals was, however, solicited within the interview.

Since competence with written language includes the ability to generate prose as well as comprehend it, some evaluation of written language skills was undertaken in the study.

Reading Diagnosis Procedure

In order to more fully evaluate a person's reading ability, an examination of present reading skills and needs must be undertaken, followed by an inquiry into the causal factors responsible for the problems experienced in reading. These two parts together comprise a reading diagnosis, which may be more formally defined as "a determining or analysis of the cause or nature of a problem or situation" (Random House Dictionary, 1966).

In the process of making a diagnosis, pertinent facts must be collected through the use of appropriate tests. However, the basis of a diagnosis is not the testing, but the analysis of performance on those tests. "It is . . . the intelligent interpretation of the facts by a person who has both the theoretical knowledge and the practical experience to know what questions to ask, to select procedures (including tests) which can supply the needed facts, to interpret the meaning of the findings correctly, and to comprehend the interrelationships of these facts and meanings" (Harris, 1970, p. 201).

The diagnostic procedure used in the current study commenced with a systematic exploration of specific strengths and weaknesses in reading. Achievement tests were given which evaluated word recognition ability, vocabulary, reading comprehension and spelling. Performance on these tests offered indications of areas of strength and of weakness. Based on this data, further tests were selected which investigated in depth those areas which appeared to be causing difficulty.

An example of the diagnostic technique used in the evaluation of word recognition abilities might serve to illustrate the point. The Slosson Oral Reading Test (SORT) contains ten lists of 20 words each, ranging in difficulty from Primer level to High School level. The reader was asked to begin on the first list and allowed to proceed until he failed all the words on a list. Every response the reader made was exactly noted by the examiner for diagnostic purposes. The number of words called correctly was divided by 10 and a grade score obtained. This was the reader's achievement level on that test. However, much more information can be obtained by analyzing the errors. The location of the errors in the words (beginning, middle, ending), or reversal errors are noted, as well as phonetic type (vowels, consonant blend, digraph, addition or omission of sounds, or transposition of sounds). Also, use (or lack) of other word-attack strategies is observed (letter by letter sounding, structural or syllabic analysis, or a combination of these skills). Then a further analysis of these errors based on frequency and predominance might lead to any of the following conclusions: (a) attempts phonetic analysis but symbol-sound associations are weak, (b) cannot analyze the word into syllables in order to apply symbol-sound knowledge, (c) poor visual discrimination of letters within words, or sequence of the letters, (d) can analyze but not synthesize the sounds into a meaningful word, etc. Examination of the errors and the resultant diagnostic information supplied data on reading process, or more explicitly, what cues or strategies the reader was using when processing printed material.

As stated previously, selection of subsequent tests made use of the data already obtained. If, for example, the reader made a number of phonetic errors, a test of phonic analysis might be given to find out what elements were known or unknown. Or, if inadequate syllable knowledge was exhibited, a test which asked the reader to directly apply syllable rules to words and then read those words might provide information as to where the problem originated. And finally, while word recognition ability on words in isolation is a necessary skill, an examination of one's word recognition on words in context is required. Good readers are able to use context clues and language knowledge as aids when attacking unknown words, and may experience more difficulty without these aids.

The same basic procedure was followed in other reading areas, including comprehension, reading accuracy on words in context, and vocabulary. Spelling evaluation provided additional information in that it indicated strength or weakness auditorially, visually, or in sound-symbol knowledge. All of these areas were first examined by means of standardized achievement tests. Problems in any area require an in-depth examination of that area to arrive at the specific difficulty. Usually, informal tests are used most effectively at this point.

Once the specific difficulties in reading have been identified, further examination of the psychological processes related to reading may be required. Termed 'cognitive factors' by Harris (1970), they include visual perception, visual memory, auditory memory, and language ability in speaking and writing. Weakness in any of these areas may affect or impede reading progress, as they influence learning ability. The importance of investigating these areas is primarily related to subsequent program development, as weaknesses require alternate or adapted approaches to learning. For example, if a person had weak visual memory ability, a sight word approach to learning to read would cause him more difficulty than would a phonetic approach supplemented by sight word instruction.

An ongoing ABE program in Albany, New York, which uses diagnosis as a basis for planning individualized reading programs was described by Murphy (1969). The diagnostic procedure followed in the Albany program was very similar to the one followed in the current study, and therefore validated the proposition that diagnosis can become an integral part of any ABE program.

The Albany program used a Gray Oral Reading Test to act as a "locator" instrument for selecting the appropriate level for a standardized achievement test which served as a beginning in the diagnosis. The diagnostic information obtained from the standardized test "is whether there is any significant disparity between vocabulary and comprehension grade levels. If vocabulary lags, further diagnosis of sound-symbol relationship is indicated or perhaps entry into a specific vocabulary-building program is advised" (pp. 51-52). Murphy also noted that if comprehension lags vocabulary ability, "then depth examination must be made to pin point the type error most frequently made and determine whether a limited vocabulary acts as a comprehension retardant" (p. 53).

To summarize, then, the basic steps taken within the diagnostic process, the following are presented:

1. Locate the approximate level of reading ability.

2. Select achievement tests appropriate for that level.

3. Evaluate performance on those tests as to areas of strength and weakness.

4. Develop an hypothesis as to possible factors impeding reading progress.

5. Select formal or informal tests which examine in depth the areas of difficulty.

6. Accept or reject the hypothesis based on those results, and continue testing as necessary in order to pin point the difficulties.

7. Examine cognitive factors which may be affecting learning ability.

8. Design a flexible instructional program to meet the needs of the individual.

9. Reevaluate and rediagnose as reading ability progresses.

Summary

This chapter reviewed the literature pertinent to understanding the adult learner and specifically the Adult Basic Education student. An examination of research-based studies that investigated the characteristics of ABE students revealed that they are, as a group, heterogeneous, independent, of wide-ranging abilities, and have varying purposes, goals and interests related to reading. To obtain data on the adults, the personal interview proved the most effective method.

The final section of this chapter presented the rationale for the reading diagnosis and described the procedure followed for the current study.

Chapter 3

THE EXPERIMENTAL DESIGN

This chapter contains a description of the experimental design of the study and of the adult participants. The interview questionnaire constructed and employed, the test instruments utilized, the procedures followed for collection of data, and the treatment of the data are also discussed.

Experimental Design of the Study

This study was designed to investigate the characteristics of adults attending a course for the improvement of literacy skills, to provide a description of these adults both as individuals and as a group. To obtain the required information, an interview was conducted with each participant, followed by an individual testing session which examined achievement, process and correlates. The questionnaire and tests used are described in this chapter.

The data were first analyzed and compiled into individual case studies. Each presents the personal history and then, specifically, the educational background of each subject. In addition, each case study contains a reading diagnosis which presents information on achievement, reading process, and reading correlates.

The data were then analyzed in order to describe the adults as a group. The description includes: description of the sociological characteristics of the adults, comparative analyses of performance on the four achievement tests, and the relationships between selected sociological characteristics and ABLE—Reading scores.

The Adult Sample

Administrative officials granted permission to this researcher to seek volunteers from adults enrolled in a course offered by the Continuing Education Department of the Edmonton Public School System in a centrally located centre. The course was developed for the purpose of skill improvement in language for English-speaking adults. There is no standard curriculum for the course, so the teachers used their professional judgment in designing a course of study which attempted to meet the expressed needs of the attending adults.

In May, 1975, 19 adults were enrolled, 12 of whom were day students and seven were evening students. This researcher presented an outline of the study to both classes and requested volunteers. For taking part in the study, each person would receive a diagnostic report which would provide information as to present level of functioning in reading, strengths and weaknesses in reading, and program recommendations for remediation. This report would be sent to their homes, and could be shared with the course teacher if so desired.

Seventeen adults responded favorably. However, one person subsequently had to be dropped from the sample due to illness. The total sample of 16 adults was comprised of 11 women and five men who ranged in age from nineteen to mid-fifties. Detailed descriptions were included in the case studies.

The Interview Questionnaire

A personal interview was chosen as the best method for obtaining certain information essential to the study. These data were of a somewhat personal nature, and since it was being solicited from adults experiencing difficulties with printed material, an interview seemed the best choice. It would be less threatening, and, furthermore, would aid the researcher in developing an easy rapport with each subject prior to formal testing.

The selected format of a nonschedule standardized interview as described by Richardson et al. (1965), allowed the interviewer to vary the number and order of the questions presented, as well as the wording, depending on the respondent. Since the group investigated was a heterogeneous one, such flexibility was necessary. Moreover, should a subject be reluctant to answer any of the questions, this format respected his personal liberty to refuse.

In formulating the specific questions, only those directly relevant to the study were employed. They were carefully sequenced to allow for a progression from seeking factual non-threatening data to areas more likely to be sensitive and personal (Good, 1966). But as noted above, the researcher was prepared to depart from the ordered sequence when circumstances seemed to warrant it. Precise wording of the questions was formulated in an attempt to ensure maximum communication with minimal confusion, but here as well, flexibility to reword any question during the interview was considered acceptable.

The completed set of 50 interview questions was submitted for evaluation to two independent judges, who had completed their coursework for a Master's degree in Reading. Both judges had experience in adult interviewing, obtained through working with adult clients attending the University of Alberta Reading and Language Clinic. Both judges offered suggestions on rewording the questions for clarification purposes, and on sequential arrangement of questions to ensure easy transition from one area to another. These suggestions were incorporated into the questionnaire.

Finally, the interview questionnaire was piloted on a 24 year old woman who applied to the University of Alberta Reading Clinic for a diagnosis of her reading problems. The interview was taped for subsequent evaluation, and the subject's opinions on the completed interview were solicited. She felt the questions were straightforward and relevant, and that none of the questions were too personal. However, the following question was changed because of difficulties encountered in answering. "What are your ambitions in the area of reading?" was changed to "How do you plan to use reading in the future?" This change was acceptable to the judges. A copy of the interview questionnaire used is in Appendix A.

Test Instruments

This section will present a description of the tests and tasks employed in the study. In selecting the research instruments, consideration was given to those that (a) provided diagnostic data as well as achievement levels, (b) could be utilized with the greatest number of subjects, and (c) were appropriate for use with adults. The areas investigated were reading achievement, reading process, and reading correlates, as defined in Chapter 2.

Reading Achievement Tests

The following instruments have been designed for the purpose of establishing level of achievement in the various skill areas. The four tests were given to each adult in the study to allow comparable data to be collected. Diagnostic information was obtained from the tests when possible and such information was included in the case study.

Slosson Oral Reading Test (SORT). This test measures reading ability on words in isolation. The items range in difficulty from Primer to High School level, with each level represented by a list of 20 words. The subject is started on a list he can read with no errors, and stopped when he mispronounces or is unable to read all 20 words. A time limit of five seconds per word is recommended, and each response is recorded.

The words were taken from standardized school readers and the score obtained represents median school achievement. A correlation of .96 was obtained with the Standardized Oral Reading Paragraphs by William S. Gray. A coefficient of .99 on a test-retest interval of one week showed internal reliability. The test was retyped for use in this study so grade level designations were not apparent to the reader.

This test was given to each subject at the beginning of each testing session as it provided information on approximate level of functioning, and therefore allowed appropriate test levels to be subsequently selected. This test was also used for diagnostic purposes as it enabled the researcher to assess what methods of word attack were employed by the subjects when mediating unknown words. The SORT is included in Appendix B.

Adult Basic Learning Examination (ABLE), Form A, Levels I, II, III. The ABLE is a battery of tests designed to measure the educational achievement of adults. In order to test levels comparable to 12 years of school achievement, three batteries were developed: Level I (Grades 1-4), Level II (Grades 5-8), Level III (Grades 9-12). There are two forms available at each level. Though each battery consists of tests for Vocabulary, Reading, Spelling, and Arithmetic, only the Vocabulary and Reading tests were used in this study. The Spelling test was not used in this study as each level test only contained 30 to 40 words at four grade levels. As spelling ability can differ greatly from reading ability, a more comprehensive testing device was considered desirable. Arithmetic ability was not evaluated in this study. Descriptions of the Vocabulary and Reading tests at each level follow.

Vocabulary. On this test, vocabulary knowledge is measured independently of reading ability. The test is read orally by the examiner and could be considered a measure of auditory vocabulary.

The vocabulary test in Levels I and II contains 50 multiple-choice items. The examiner reads sentences with three alternatives given for the last word in each sentence. The examinee chooses and fills in one of three blanks in the test booklet.

The vocabulary test in Level III contains 60 multiple-choice items. The examiner reads sentences with four alternatives given for the ending of each sentence. The subject marks one of the four choices in the test booklet.

The format of the ABLE vocabulary test was desirable for this study since auditory vocabulary is typically greater than speaking or reading vocabularies in under-educated adults. It does evaluate how well one understands words and establishes the level of functioning in vocabulary knowledge, without depending on reading ability, so was chosen as suitable for the study.

Reading. This test section of the ABLE determines how well one understands the meanings of sentences and paragraphs which he reads silently. Level I (51 items) and Level II (58 items) tests are composed of paragraphs of increasing length and difficulty. The subject is required to select one of three choices for a missing word or phrase. The vocabulary load is light at these levels, and the comprehension focus remains at the literal level.

There is a change in format and focus at Level III. The first part of the test (45 items) consists of increasingly complex paragraphs followed by a series of multiple-choice questions designed to test comprehension of explicitly stated material as well as the ability to make inferences and draw generalizations from what is given. The second part of the test (15 items) contains a facsimile of a newspaper front page, which the subject is required to read in five minutes. This is followed by multiple-choice questions designed to measure ability to recall specific information and to form conclusions. The subject may not refer back to the news items while answering the questions.

Though some test reviewers have found the Level I and II reading tests to be inadequate achievement measures (Fry, 1969) or artificial in lieu of the kind of reading adults do (Buros, 1972), they were believed useful for this study for the following reasons:

1. The test could be used for all adults in the study, and therefore performance could be compared and related. They have been standardized and norms provided for all levels. (See Appendix C.) The content is varied, adult oriented, and geared to life experiences.

2. While the ABLE was not designed as a diagnostic instrument, ability in comprehending literal information could be established at Level I and Level II. The Level III test questions could be analyzed as to whether they were literal, inferential or generalizing questions and the subject's performance on the various types of questions noted. As well, performance on the second part of Level III gave indications as to ability to skim, retain, and recall information which had been read.

Schonell Graded Word Spelling Test, Form A. This test consists of 100 words graded in difficulty from Primer to High School level, 10 words per grade level. Administration procedure is to present the word orally, read a sentence containing the word, and repeat the word. The subject writes the word.

Though the test was developed for school age children from 5 to

15, it was selected for this study because an achievement level could be established, and because of the scope of grade levels tested. Also, administration of the test is terminated after 10 successive errors which suited time considerations. To further save time, the test was not given from the beginning but rather started with words approximately two years below SORT scores. A basal was reached when 10 consecutive words were spelled correctly.

Since the test was to be used diagnostically, errors were analyzed using selected criteria from the Spache Spelling Errors Test. The errors noted were: omissions of silent or sounded letters, substitutions of silent or sounded letters, and transpositions.

A spelling test was included in this study to evaluate the skill that is basic to written communication and which requires knowledge of sound-symbol associations.

In developing the test, the author used words from his Essential Spelling List. He administered the test to approximately 2,000 English children, about 200 in each age group from 5 to 15 years. After eliminating unsuitable words, 10 words were chosen for each age group, each of which were spelled correctly by 45 to 55 percent of the age group.

Reliability was .96 on a test-retest of 195 children (age unspecified).

The Schonell Graded Word Spelling Test, Form A is included in Appendix B.

Reading Process Tests

Tests included in this section are the instruments which were used to identify the specific nature of the individual's reading difficulties. The instruments include those tests which evaluate performance in sub-level skills basic to major reading skill areas. They were given when performance on the achievement tests indicated non-mastery of a major skill area, such as word recognition or reading comprehension, and a more in-depth analysis of the specific difficulty, such as syllabication or visual discrimination, was required. Most of the Reading process tests have been included in the appendices.

Oral Reading Tests. Oral reading tests are useful as diagnostic tools to investigate comprehension, reading accuracy, vocabulary in context, reading speed, and strategies available to the reader. Standardized tests may be used to establish level of achievement in both reading accuracy and comprehension, but an appropriate standardized test was not available.

For purposes of this study, adult-oriented testing devices which ranged from Primary to Grade 12 ability levels were necessary. Total acceptance of a published set of oral reading paragraphs familiar to the examiner was impossible due to the fact that the Primary level paragraphs were geared to children. To resolve the problem, the following steps were taken.

Six passages were selected by this researcher from published graded materials as being suitable for adults. Readability levels were checked using the Flesch Readability Formula. Comprehension questions were developed for each paragraph and submitted to three graduate students specializing in reading at the Master's level for critical judgment. This researcher requested their opinions on question wording, content suitability and level of thinking required to answer the question (at least one inferential question was desired). Their suggestions were incorporated when general agreement was reached. These passages and questions were used for Grade 1 to Grade 6 levels. (See Appendix D.)

In order to reach the higher achievement levels, the Gray Oral Reading Tests, Form C was chosen as being most suitable as it contains passages at the Grade 8, 10, 12, 14 and adult levels.

The procedure for giving Oral Reading Tests was as follows. Based on performance on the Slosson Oral Reading Test, a passage was selected by the examiner as being easy for the subject to read (usually one or two grade levels below achievement on SORT). The subject was asked to read the passage orally and was told that questions would follow the reading. Errors were recorded on the examiner's marking sheet. The test was continued until the subject made 10 or more errors on a passage.

The errors noted for purposes of this study included:

(a) Examiner aid. After 10 seconds, the examiner supplied the word needed.

(b) Mispronunciations

(c) Omissions

(d) Substitutions

(e) Insertions

(f) Changing word order.

While all these errors were noted, they may not all be included in the error count. When, in this examiner's opinion, the errors did not change the meaning of the passage, they were not considered wrong (i.e., countable errors).

Since the passages varied in length as did the number of questions asked, the scoring procedure had to allow for such differences. Therefore, the system outlined below was used on all passages. Percentages were computed using number of words called correctly per number of passage words. The following categories were employed:

(a) 95% and above - Independent level

(b) 85-94% - Instructional level

(c) Below 85% - Frustration level.

Comprehension questions were also subjected to percentage computation and the following categories were established as most useful:

(a) 85% and above - Independent level

(b) 70-85% - Instructional level

(c) Below 70% - Frustration level.

Both Independent and Instructional levels are characterized by reading with understanding and freedom from tension. Natural language rhythm is maintained. Frustration level reading is halting, non-fluent, contains meaningless substitutions, exhibits lack of rhythm, and is usually accompanied by symptoms of tension.

The reliability of the Gray Oral Reading Tests was calculated using coefficients of intercorrelation among grade scores on each of the four forms; A, B, C, D. For all subjects, the range was from

.973 to .982; for girls from .977 to .981; and for boys, from .969 to .983.

The author claims validity because of the procedures used in constructing the test (described in the manual). As well, the fact that pupils randomly selected from "representative groups" as judged by the cooperating schools obtained scores that distinguish one grade from another indicates concurrent validity (Gray, 1963).

Alta-Boyd Test of Phonic Skills. Nonsense words are the basis of this test which is designed to assess the ability to generalize phonic knowledge in sounding unfamiliar words, and could not be recognized as sight words. As it includes examples of phonic relationships usually taught in primary grades, it is recommended for those with at least four years of schooling.

It was selected for this study as a check on word analysis skills as sight word ability would not affect performance. Most other tests of basic phonic knowledge use real words.

This test was given only to those adults whose reading and spelling ability appeared to be hindered by inadequate phonic knowledge in that they wrote symbols or gave sounds not related to the auditory or visual cue.

Administration procedures consisted of presenting cards to the subject who is asked to read them. Responses were recorded and credit given for correctly sounding the phonic element being tested, even though the total nonsense word may have been miscalled. The test is included in Appendix E.

Huelsman Word Discrimination Test, Form B—ALTA. In order to be able to read efficiently, the ability to visually discriminate letters in similar looking words is necessary. When frequent substitution of similar looking words was an error pattern, an evaluation of the reader's visual discrimination ability was included in the diagnosis.

In this test the subject is required to select the word, from a group of distractors, that matches the key word. The distractors contain sequence changes, letter reversals, omissions, and substitutions. Only one of the choices is a real word.

An alternate use of the test is to cover the key word and ask the subject to select the group of letters that is a word. It was used when the subject appeared to have no difficulty visually matching words. It provided additional information on the subject's word recognition ability, knowledge of letter sequences common in English, and memory for word forms. (See Appendix E.)

Monroe Diagnostic Reading Examination, Test 8. This subtest is designed to evaluate the ability to match an auditory stimulus with its visual counterpart, which is an integrative process requisite to spelling and reading ability. It was used when a subject's performance on spelling or reading tests indicated problems with discriminating letter sequence or faulty association of sound-symbol relationships. It is a useful diagnostic device to check the ability of the subject to hear a stimulus word correctly, and integrate the auditory information with visual cues.

The subject is required to select from a list of similar looking words the word that matches the auditory stimulus. It necessitates visually discriminating the word as well as holding in mind the auditory information. (See Appendix E.)

Boyd-Clymer-Hoyt Syllabication, Test 5. This test is used to evaluate the ability to use syllabication as a tool in word mediation. The subject is asked to draw a line between the syllables in each word. Diagnostic use of the test is made when the subject is asked to pronounce words selected by the examiner which may or may not be correctly syllabicated. Note is made as to the use of syllables in pronunciation of the word as well as the ability to apply the correct symbol-sound associations to the word parts. It also provides information on the subject's knowledge of syllable generalizations; required tools when mediating multi-syllable words. Since the words are at the elementary level, it was used only on subjects with ability at or near that level. (See Appendix E.)

Cloze Tests. The term 'cloze' refers to the procedure of deleting words from a sentence or passage according to a specified objective. Words are generally deleted in either of two ways: (a) every nth word, or (b) words of a particular type (logical—nouns, verbs, adjectives, adverbs; functional—connectives, articles, prepositions). Blanks of uniform length are substituted for the deleted words.

The cloze procedure was used in this research as a measure of comprehension. Fagan (1969) concluded that there was sufficient evidence to warrant its use as a comprehension measure after a review of research investigating the reliability and validity of the cloze procedure as a measure of reading comprehension.

Four passages were selected for use in this study. Their grade levels were: #1, Grades 1-2; #2, Grades 3-4; #3, Grades 5-6; and #4, Grade 7 and above as established by the authors of the materials from which they were taken. This span of reading levels in the passages was believed to be sufficient to provide each subject with an easy selection (relative to his SORT scores) to read and complete. The first three levels exemplified the technique of deleting every fifth word, while the fourth passage deleted logical and functional words. The latter deleted choices were from two to five words apart, and were chosen as deletions as their meaning could be inferred from the remaining text if one used both preceding and succeeding context.

For the purpose of this study, insertions which matched or were synonymous with the deleted word were accepted and scored as correct, as they fit the meaning of the text. Errors, words that did not fit meaningfully with the text, were charted as to whether they were semantically or grammatically correct with either preceding or succeeding context.

The cloze procedure supplies diagnostic information on the comprehension strategies used by the subject which included:

(a) Use of context to obtain meaning
(b) Isolated use of either preceding or succeeding context
(c) Knowledge of English language structures and grammatical forms.

(See Appendix E for the tests used.)

Reading Correlates Tests

The instruments designed to evaluate the functioning level of the language and memory processes involved in learning to read are discussed in this section. The tests evaluate memory, both auditory and visual, and language, both receptive and expressive. It is believed that disorders in functioning in these areas impede learning, and affect ability to master reading (Johnson and Myklebust, 1967). If a weakness in one of these areas is uncovered, it would help to explain an individual's previous difficulties in learning to read and have implications for future instructional programs. All of the correlate tests have been included in Appendix F.

Monroe-Sherman Aptitude Tests: Visual Letter Memory Subtest. On this test of visual letter memory, the subject is required to write down a sequence of letters that has just been displayed by the examiner for five seconds. The letter groups span two to ten letters. This test measures one's memory for letter sequences.

Additional information is provided if the subject is asked the method he used to remember the letters. Note is made as to whether he applies phonic and syllabication knowledge or attempts to remember only the individual letters. This test is used when spelling errors indicate one is spelling as if all words have sound-symbol regularities, or when word attack skills are adequate yet accompanied by a poor sight vocabulary, and provides information on the subject's ability to hold a sequence of letters in mind long enough to write them.

Detroit Test of Learning Aptitude—Test 13, Auditory Attention Span for Related Syllables. This test of auditory memory is designed to assess how well an individual can remember sets of meaningful material. It consists of 43 sentences of increasing difficulty in both number and complexity of words.

The sentences are read by the examiner and the subject is required to repeat the sentences verbatim. Responses are noted by crossing out omitted words and by inserting any additional or substituted words or syllables. The test is terminated when three consecutive sentences have been failed. A sentence is failed when there are three or more errors therein.

Norms are available for this test, though they only extend to 19 years (Baker and Leland, 1967). However, it was selected for use in this study as it was to be used selectively on only those adults who appeared to have poor auditory memory ability, as determined by their inability to retell a story presented orally. The score was calculated and converted to a mental age score but expressed by general grade level terminology within the study.

Oral Language Tests. Oral language competency, both receptive and expressive, is a prerequisite to reading competency. Two methods of evaluating language ability were utilized in this study for purposes of comparison.

The first method consisted of the examiner reading a passage orally to the subject who was requested to retell the story. The output was tape recorded and transcribed for analysis purposes. This technique provides information regarding (a) expressive ability,

(b) listening comprehension (receptive ability) and (c) auditory memory ability.

The second method required that the subject retell a story he had just read silently. The output was also taped, transcribed and analyzed. This technique supplies data on expressive ability as well as on silent reading comprehension and memory.

Both techniques allow for evaluation of the ability to receive and organize material and present it in a sequential coherent manner.

The output was analyzed for the following components of oral language:

1. The total number of words produced.
2. The number of complete thought units (T-units).
3. The number of words in each T-unit.
4. The number of mazes (i.e., false starts, unnecessary words) (Hunt, 1965).

A difference between performance (i.e., output) on the two tasks might suggest specific problem areas. These areas might include difficulties in: auditory memory, organization of ideas presented, either orally or visually, and listening or reading comprehension. Presuming no difficulties in any of the aforementioned areas, it evaluates one's ability to orally present information in a coherent, fluent way.

Written Language Tests. This task consists of rewriting a passage that is made up of short, choppy, often redundant sentences.

The purpose of the task is to measure one's ability to correctly use English sentence structures, without requiring one to generate ideas. The rewritten paragraph was analyzed for mean T-unit length which provided a measure of the writer's syntactic maturity.

Collection of the Data

The data for this study were collected during the period from May 22 to June 25, 1975.

Appointments were made with the participants to enable them to secure release time from the classes. A room was provided by the administrators for use by the researcher at the school where the course was offered, for both morning and evening appointments. Each session was scheduled for 2½ to 3 hours and was sufficient for one adult subject.

The session began with an explanation of the purpose of the study and an overview of the session. The rationale for the use of the tape recorder was given and then the interview commenced. The interview questionnaire was followed verbatim unless any of the following reasons required changes in wording or sequence of questions:

1. The subject indicated he did not understand the question.
2. The subject had previously provided the information while answering another question.
3. The question would not be relevant to the subject.
4. The subject refused to answer a question. (This was noted and included in the individual's case study.)

Following the interview, the Slosson Oral Reading Test was given, as it served as a locator for subsequent test level selection. The Oral Reading Paragraphs, and the Adult Basic Learning Examination were given next. This was followed by the Schonell Graded Word Spelling Test. Based on performance on these tests, subsequent tests were selected and given as described previously.

The interview cassette tape was transcribed and the tests marked by the researcher. As well, each subject was mailed a copy of his reading report, including program recommendations, for his own use.

Treatment of the Data

The data were analyzed in two stages. Firstly, the information was analyzed and presented in case study format for each individual. The personal history and educational background of the subject was presented, and was followed by a description of his performance on the various tests. These data then completed the investigation of the subjects as individuals.

The next stage consisted of analyzing the data to obtain information on the adults as a group. This information was divided into three sections. The first section delineated the sociological characteristics of the group. The second section reported the group's performance on the four achievement tests. The third section presented comparative data on the relationship between selected sociological and educational factors and ABLE—Reading test scores.

Summary

This chapter contained a description of the adult sample and the interview questionnaire constructed for the study.

A rationale for each test used in the study was provided and the testing procedure and diagnostic value described.

Also included in this chapter was an explanation of the procedure followed for the collection of data and the treatment of that data.

Chapter 4 follows with a presentation of the individual case studies.

Chapter 4

FINDINGS OF THE STUDY: CASE STUDIES OF INDIVIDUALS

This chapter reports the findings of the study for each of the adults in the sample. The data obtained in the interview and diagnostic testing session for each adult have been compiled, and presented in case study format. Each case study reports the personal history, educational background, and reading performance of the adult. Included in the latter is a statement of their achievement level, an analysis of their manner of processing print, and the memory and language correlates, the influential factors facilitating or impeding reading progress. A summary statement of the individual's strengths and weaknesses ends each case study.

In the attempt to keep the case studies from becoming too lengthy or too redundant, certain decisions were made as to their presentation. The first consideration was the decision to describe the essence of the reader's present achievement and the means the reader used to process print. For this reason, examples were used to clarify error types rather than definitive numbers which are not as useful. Since a variety of tests were used which investigated the manner of processing print, the decision to use the examples rather than numbers of errors on each test seemed appropriate.

A brief description of spelling error patterns has been included in the section which describes achievement levels. This decision eliminated the need for a separate section to present the data.

Finally, when describing the subject's oral expression, certain terminology was used based on an informal evaluation on the part of the researcher. Again, this decision was made to keep the case studies from becoming too lengthy. Specifically, the term 'good sentence structure' is used to mean the subject speaks in complete sentences with appropriate use and placement of adjectives, adverbs and other parts of speech. The term 'good sentence variety' indicates the subject used compound and complex sentence structures as well as simple sentences and their use of subordinate clauses was correct. The oral expressions tasks are described in Chapter 3 if further clarification is required.

Case Study No. 1

Personal History

Subject No. 1 was a 52 year old married woman whose children are grown and no longer at home. After having worked for a local retail store for 12 years, she was now at home. She decided to return to school to obtain her Grade 12 matriculation, and, as she had been out of school for 38 years, wanted a "brush up" course before attempting the required courses. She noted, however, she primarily enrolled in the present course for purposes of self-improvement, particularly in the area of reading comprehension. The course did not meet her expectations as she believed the class members were too varied in ability which limited the teacher's ability to adequately direct each person's instructional program.

Subject No. 1 was born in England and moved to Edmonton in 1948. She speaks no other language than English. She is an avid reader, finishing seven or eight library books a week. D. H. Lawrence is her favorite author as he is a native of the same area in England where she was born. She reads the Edmonton Journal occasionally, and limits her television viewing to specials, documentaries and the evening news.

Her future goals were related to child care, with particular interest in obtaining employment comparable to the teacher aide position found in England's nursery schools.

Educational Background

Subject No. 1 attended one school from age 4 to 14, finishing level 8A which she believed equivalent to Canadian Grade 10. She was a good student with excellent attendance and never repeated a grade. The school provided one teacher per grade level, each of whom she recalled as being good teachers. She remembered being taught to read by sounding each letter, but her reading was limited to school books as access to libraries was nonexistent. Subject No. 1 loved school and especially loved to read, but as her parents believed girls did not need much education, she was not allowed to continue with her education, and has received no other training since then.

The subject believed there is a definite need for reading courses available to adults. She noted that adults have many different problems in reading and therefore a number of courses geared to varying ability levels should be offered.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 197/200 High School equivalent.

Adult Basic Learning Examination, Level III, Form A

Test 1 - Vocabulary

Score: 48/60 Grade equivalent: 12.

Test 2 - Reading

Score: 45/60 Grade equivalent: 11.

Schonell Graded Word Spelling Test, Form A

Score: 92/100 Grade equivalent: 9.2.

Subject No. 1 had a functional reading level comparable to a senior high school student. Spelling ability was at the junior high level, but it must be noted that she does not use her spelling skills regularly which may have affected her performance. Her errors indicated phonetic spelling and consisted of omission of non-sounded letters (e.g., prologe for prologue, affectionatly for affectionately) or substitution of similar sounding letters (e.g., prelimenary for preliminary, garentee for guarantee).

II. Manner of Processing Print

The achievement tests were analyzed for error patterns, and the following tests were administered to provide additional information:

Oral Reading Paragraphs

Cloze test

A. Word Identification in Isolation and in Context

With the exception of two substitutions (e.g., careful for carefully, depreciate for deprecate), the remaining five errors were all ones of mispronunciation (e.g., ri/di'/cule, stra/te'/gem): These relatively few errors on both words in isolation and in context indicated word identification was not an area of difficulty as it appeared the errors were due to unfamiliarity with the words in oral vocabulary rather than mediation problems.

B. Comprehension

An analysis of comprehension errors on the Oral Reading Paragraphs indicated that with the exception of one instance, Subject No. 1 grasped the general idea of the passages. However, when answering the questions, she would often give only partial information (e.g., servants for trusted servants, Earl for Iron Earl). Her performance on the ABLE indicated some difficulty in making inferences. For example, in response to the question, "A typical hunter's impression of a musk ox would probably be that it was _______," she chose "dangerous to hunt." The text read, "The breed had almost been wiped out by hunters," so her choice should have been "easy to hunt." The majority of her errors were on the same type of question.

On a task in which Subject No. 1 was asked to fill in blanks in a story, the words she chose were usually semantically correct with both preceding and succeeding context. She did make four errors syntactically, all on noun-verb agreement.

III. Correlates

The following tasks were administered to determine ability in areas directly related to reading.

Language Factors

Oral Expression

Subject No. 1 exhibited good sentence structure and variety in her speech while retelling the stories of passages either read to her or which she read silently. The material was recalled in sequential order with all the ideas included.

Written Expression

Performance on this task equalled that of a Grade 10 student (Appendix F, Written Language Test, p. 267). However, in a number of instances Subject No. 1 used incorrect form (run-on sentences) to present the material (e.g., "Finally a metal is produced it is light and has lustre which is silvery and bright, it comes in many forms.").

Summary

Subject No. 1 exhibited strengths in vocabulary, in her ability to recognize or mediate words accurately, in comprehending material read at the literal level, and in her ability to express herself orally when retelling stories she had heard or read silently.

On the other hand, some minor weaknesses were apparent in that she had difficulty remembering visual images of words exemplified by her reliance on spelling words phonetically. She was often unable to correctly interpret inferential material which she had read. Finally, she produced run-on sentences in writing which indicated non-mastery of basic writing skills. It should be noted, however, that the subject did not use writing in her everyday life to any degree.

Case Study No. 2

Personal History

Subject No. 2 was a 47 year old married woman. Her children were grown, and only a 17 year old son was still at home. She was born and educated in Amsterdam, married at 18, and moved to Edmonton in 1952. Due to the poor health of her husband, she became the sole support of the family and has worked all her life. She began as a retail store clerk, moving to another company after four years. She was trained by this company and eventually held a position in quality control as a supervisor. In competing for a promotion to a management position with this company, she felt she lost out because of an interview which was discriminatory against her accent and the fact that she was not Canadian-born. She has since quit her job and returned to school.

Subject No. 2 enrolled in the course to prepare for an English 30 course. She was interested in finding out "what she's equipped to do" as she wants to work and keep busy, and has no interest in being home doing nothing. She hopes education will "make her more self-assured and confident."

This subject reads the newspaper daily, especially items concerned with politics. She also reads Time and Macleans, regretting she no longer has time for the Reader's Digest and Life. She loves to read novels by Pearl Buck, Hemingway and Agatha Cristie, but again time limits this pastime. Television does not interest her much, but she does watch the evening news, Maclear and an occasional documentary or film.

Educational Background

Subject No. 2 attended school in Amsterdam, completing Grade 12. She was a good student and remembered being taught to read by "spelling words out letter by letter." She was taught English in school, along with French and German, but since she never "used" these languages, never became fluent. Grade 12 was considered to be enough education for girls, so her parents did not encourage her to continue in school.

When she moved to Edmonton with her husband, she took a course at Alberta College for one year to learn the English language. In 1967, she attended and finished a course (Basic Structure of Modern English) at the University of Alberta, but felt she was discriminated against because of her accent, so she never returned for another course.

She received job-related inservice training by the company she worked for, and therefore was gradually moved up to the supervisory position held when she left the job.

Subject No. 2 believes Edmonton needs many more adult reading courses. These need to be varied in what they offer as "some people are smarter than others and some need more help." She would eventually like to take a speed reading course.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 197/200 High School equivalent.

ABLE, Level III, Form A

Test 1 - Vocabulary

Score: 43/60 Grade equivalent: 10.

Test 2 - Reading

Score: 43/60 Grade equivalent: 11.

Schonell Graded Word Spelling Test, Form A

Score: 87/100 Grade equivalent: 8.7.

Subject No. 2 had a functional reading ability level of Grade 11. Spelling achievement was at the junior high level, with errors primarily caused by substitution of similar sounding letters (e.g., preleminary for preliminary, irresistable for irresistible) or omission of non-sounded letters (e.g., prolog for prologue, curtious for courteous). Both these errors indicated she is spelling phonetically most likely due to inaccurate visual image of the word. However, careless or inaccurate pronunciation of the word by the subject as she spells may be an influential factor here.

II. Manner of Processing Print

The aforementioned tests were analyzed for error patterns, along with the following administered tests.

Oral Reading Paragraphs

Cloze test

A. Word Identification in Isolation and in Context

Subject No. 2 performed somewhat better on words in context than on words in isolation, indicating she most likely used the context as an aid in word identification. Her errors were primarily ones of mispronunciation. Other errors noted were syllabication or symbol-sound association mistakes (e.g., affailable for affable, fassimile for facsimile, anamoured for enamoured). Word attack skills appeared to be solid as difficulty was experienced only on the highest levels of each test.

B. Comprehension

On all comprehension tasks, Subject No. 2 grasped the main idea of the passages, but sometimes omitted or failed to recall details. Her performance on the ABLE indicated difficulty in making inferences. For example, in response to the question "The author probably considers photography a ________," she chose "lost art." The text read "Photos tell a story, create a mood," with the correct choice being "communication skill." A number of similar errors were noted.

On a task in which the subject was asked to fill in blanks in a story, she used preceding context consistently in her choice of words, but not always succeeding context. As a result, some of her errors did not fit the meaning of the total context. However, the subject did fairly well on the task even though she said she found it very difficult.

III. Correlates

The following tasks were administered in order to assess ability in areas related to reading.

Language Factors

Oral Expression

Subject No. 2 experienced difficulty on a task which required she retell a story that had been read to her. She was unable to present much of the information and could not recall the data when probed by the examiner. On the other hand, she did very well on a similar task in which she silently read the passage and then retold the story. Most of the information recalled was sequentially presented in an organized manner. The difference in the performance on these tasks may be due to a poor memory for things heard auditorially, or merely familiarity with the latter passage material which aided her recall.

Written Expression

Performance on this task equalled that of a Grade 12 student, indicating that this is an area of strength for the subject.

Summary

Subject No. 2 had strengths in the areas of identification of words both in isolation and in context, vocabulary, written expression, and in comprehending the general meaning of passages read.

Her weaknesses were in spelling, inferential comprehension, and in recalling information presented auditorially. As well, some difficulty was noted in recalling details from material read silently.

Case Study No. 3

Personal History

Subject No. 3 was a 43 year old married woman with three children. Her two oldest girls are living away from home and her desire to write letters to them was one of her reasons for being in the class. She felt she has not mastered the English language well enough for correspondence purposes. Now that she is not working and has more time, she is fulfilling her life-long wish to return to school for more education. Her main concern was the improvement of spelling and writing skills, but she indicated reading is a very slow, tiresome task for her. Her oral language ability was excellent and she was verbally fluent with little trace of accent.

Subject No. 3 was born in the Ukraine, learning a low German dialect as her first language. Her first year of school was in Russia in 1940. In 1941 the German occupation forced the family to Poland and then into Germany, where she completed three more years of school having to learn a new German dialect. In 1948, the family came to Canada. After six months in an immigration camp they arrived at a relative's farm in Alberta, where they remained for two years. During this time, she attended school. In 1950 she and her mother moved to Calgary where they supported themselves and the family by doing housework. Though she later married and had children, she worked for 22 years as a waitress/hostess in a large hotel in Calgary. The family moved to Edmonton two years ago.

Subject No. 3 reads the Edmonton Journal, Chatelaine and Reader's Digest. As she devotes most of her time to gardening, baking, and sewing, she watches very little television. While she found the improvement course helpful and the teacher very accommodating, she noted it was not intensive enough for her purposes, as class time was taken up by each of the member's individual problems, all of whom varied greatly in abilities and concerns. She was interested primarily in improving her written language skills.

Educational Background

The equivalent to four years of education was obtained by the subject in Russia, Poland, and then Germany, though school attendance was not regular. In a period of eight years, she attended school for three and one-half years. When she arrived in Alberta she was 16 years old, and upon enrolling in school was placed in the primary grades. Fortunately, the Grade 8 teacher took responsibility for the instruction of the subject and tutored her individually, which allowed her to progress rapidly, particularly in Mathematics. Subject No. 3 recalled that the English instruction she received focused primarily on speech and grammar, with no specific training provided in learning to read English. As she was able to read German, and had been taught phonetically, much of this knowledge was applicable, she found, when attempting reading on her own. Upon completing the required course work for Grade 9, she was told by her mother, "That was good enough for a girl." Soon after, the family moved to Calgary.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 173/200 Grade equivalent: 8.1.

ABLE, Level III, Form A

Test 1 - Vocabulary

Score: 43/60 Grade equivalent: 10.

Test 2 - Reading

Score: 53/60 Grade equivalent: 12.

Schonell Graded Word Spelling Test, Form A

Score: 59/100 Grade equivalent: 5.9.

Subject No. 3 has a functional reading ability at the senior high level on words in context, but lesser ability on words in isolation. The subject worked very slowly and carefully on the ABLE—Reading test, and rechecked all her answers. Vocabulary was a little weak, most likely due to her lack of formal education and informal reading habits. Spelling ability is at the upper elementary level. Errors indicated she was limited to spelling the word as it sounded with little or no visual image of the word to aid her spelling (e.g., instants for instance, mecanical for mechanical, verios for various).

II. Manner of Processing Print

Each of the achievement tests was analyzed for error patterns, and the following tests administered to provide additional information.

Oral Reading Paragraphs

Cloze test.

A. Word Identification in Isolation and in Context

Word recognition errors on the SORT and Oral Reading Paragraphs were primarily mispronunciations. Her word attack skills were adequate on all but the most difficult words which were most likely not in her vocabulary. Word accuracy was at the Grade 12 level on words in context (as compared to Grade 8.1 on the SORT), indicating she used the context as an aid in word recognition.

B. Comprehension

Comprehension in both oral and silent reading was good, with no apparent difficulties in any area. However, the subject did experience some problems on the Cloze test, as many of her errors were syntactically incorrect. This may be the basis for some of the difficulty experienced with written language.

III. Correlates

The following tasks were administered to assess ability in areas directly related to reading.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: 30-40th percentile.

These results indicate weakness in visually remembering letters within words. Though she indicated she tried to sound the words by syllables, she was unable to recall the visual image to help her. This somewhat explains spelling difficulties.

B. Language Factors

Oral Expression

While there was not much variety in sentence structure, Subject No. 3 was able to relate most of the information in sequential order. Performance was better when she read the passage silently. In both situations, oral expression ability proved quite adequate.

Written Expression

Unfortunately, this task was not given as the testing session took place in the evening and it became quite late. However, the subject did bring along a letter she had asked the teacher to correct. In the letter she made about five errors, all syntactic mistakes or ones related to vocabulary confusion. For example, noun-verb agreement caused her some difficulty, as was noted on her performance on the Cloze test.

Summary

Considering her background and educational history, Subject No. 3 had a number of strengths. They include word identification in context, and reading comprehension, while vocabulary and oral expression were adequate.

Specific weaknesses were apparent in spelling, visual memory, syntactic knowledge in written expression, and to a lesser degree word identification in isolation.

While not necessarily a problem area, it seemed that the subject took a noticeably long period of time to read the passages, and to answer the questions. An instructional program developed for her might include skimming or phrase reading techniques to improve reading rate.

Case Study No. 4

Personal History

Subject No. 4 was a 20 year old single man. He has had a physical handicap (muscular dystrophy) since he was a young child. His purpose in taking the course was as preparation for an English 33 course required to complete his Grade 12 matriculation. He hoped to eventually be able to enroll in Landscape Architecture at NAIT.

Subject No. 4 was born in Winnipeg and attended school there, until he quit following Grade 10. He moved to Vancouver where he spent two years and then, just recently, moved to Edmonton.

The subject does not read much other than an occasional newspaper. He watches television irregularly which sometimes includes the news. His evenings at present are spent on homework for a Mathematics course.

Educational Background

Subject No. 4 attended school in Winnipeg, completing Grade 10. At this point he quit school due to "disagreements" with one of the teachers. He had repeated Grade 3, but had no further difficulty in elementary school. Though he attended four or five different schools in Winnipeg, he always finished his year at the same school before moving.

He recalled he liked school ("took it in stride") and believed he had good teachers. His attendance was very good, and he remembers he was taught to read by the whole word method.

Difficulties started in junior high because of the higher level courses, but his grades remained average. Because of his handicap, a private tutor was made available to him but he refused, as he wanted to see how he fared in "regular school." Upon finishing Grade 7 in an academic curriculum, he switched to the vocational program which he found easier. However, he now regrets that decision and wishes he had stayed in academic courses. His vocational training was in horticulture, which he found difficult because of his handicap.

At present, Subject No. 4 is being sponsored by Advanced Education in his return to school. He was finding the "reading" course most useful, and was interested in finding out what his capabilities were. He "knows I can go further [in school], but I don't know how far that is."

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 172/200 Grade equivalent: 8.6.

ABLE, Level III, Form A

Test 1 - Vocabulary

Score: 38/60 Grade equivalent: 9.0.

Test 2 - Reading

Score: 36/60 Grade equivalent: 9.0.

Schonell Grade Word Spelling Test, Form A

Score: 80/100 Grade equivalent: 8.0.

Subject No. 4 had a functional reading level at the junior high level, with his achievement in other areas consistent with that level performance. Spelling difficulties were substitutions or omissions (e.g., mecanial for mechanical, ancious for anxious). It appeared that inaccurate pronunciation by the subject might be causing some errors (e.g., exceptional for exceptionally, fanincial for financial).

II. Manner of Processing Print

Both the aforementioned achievement tests and the following tests were analyzed for error patterns to determine the subject's manner of processing printed material.

Oral Reading Paragraphs

Cloze test.

A. Word Identification in Isolation and in Context

Performance on the SORT indicated that the subject focuses on the initial and final part of the word, as well as ascending and descending letters. His errors were primarily on the middle part of the word, usually with the addition of letters or syllables (e.g., intrignate for intricate, affalable for affable, scrumplious for scrupulous). There were a number of word endings miscalled on the easier lists (e.g., hungry for hunger, distance for distant, ambitious for ambition) most likely due to carelessness. This problem was not apparent as the lists increased in difficulty.

Errors on the easier passages of the Oral Reading Paragraphs were primarily substitutions which did fit sentence meaning (e.g., little for new, steady for steadily, planning for planned, begin for began). As the passages increased in difficulty, the subject made substitution errors which did not fit sentence meaning (e.g., coincided for coalesced, discrete for discredit, integrating for ingratiating) and mispronunciation errors.

On the whole, the subject appeared to have knowledge of syllabication and symbol-sound associations, but did not always apply this knowledge effectively. Unfamiliarity with difficult vocabulary may have influenced his performance to some degree.

B. Comprehension

Subject No. 4 comprehended literal material to the Grade 10 level. Beyond that, word identification difficulties impeded comprehension, as indicated by his performance on the Oral Reading Paragraphs. The errors on the ABLE were found to be on questions requiring generalizing and making inferences. In addition, one of the passages discussing the "throw-away society" was misunderstood by the subject causing him to err on five of the seven questions. Difficulty was also experienced by Subject No. 4 on Part two of the ABLE. Considering he had little problem recalling information on the Oral Reading Paragraphs (which was required on Part two), the five minute time limit and/or careless reading may have influenced his poor performance (seven errors out of 15 items).

III. Correlates

The following tasks were administered to establish ability in selected areas directly related to reading.

Language Factors

Oral Expression

Subject No. 4 experienced little difficulty on these two tasks. He did somewhat better on the passage read silently but in both cases most of the information was recalled and presented in sequential order.

Written Expression

The subject's performance on this task was comparable to a Grade 12 student, though the sentences showed little variety. Written expression does not appear to be an area of difficulty.

Summary

Subject No. 4 was achieving at the junior high level in all areas, with the exception of written expression which was higher. Since his scores and performance were so consistent, it appeared he had no specific weaknesses. However, word identification, vocabulary, spelling, and inferential comprehension difficulties appear to be impeding his reading development at the present.

Case Study No. 5

Personal History

Subject No. 5 was a middle-aged married woman whose three children are grown and no longer at home. She had to quit her job in a nursing home this last year for personal health reasons, and decided to return for more education, as staying at home does not appeal to her. She is interested in eventually doing clerical work, but was offered employment as manager of a small cafe which she accepted.

She loves to read but feels limited in her time to do so. Her recent illness required bed rest and she was able then to do more reading. She likes the Reader's Digest Condensed Books, Chatelaine and Ladies Home Journal magazines, and the Edmonton Journal newspaper. She does not find television very interesting and spends little time watching it.

The subject was born of German parents in a German community in Canada. Both English and German were spoken at home. She was raised by her mother and aunts, as her father died when she was three.

She was married 27 years ago and traveled a great deal the first 10 years, as her husband's job required it. They settled in Edmonton 17 years ago.

Subject No. 5 felt there is a great need for reading courses for adults, but that they should be more individualized. She noted, "Most of the older adults were educated in large groups and didn't get much attention in learning to sound words by syllables, etc." She noted that often at work some women "couldn't read as well as I, and I can't read that well."

Educational Background

Subject No. 5 began school at age 8, as she was considered "too small" to begin before that. She attended a rural school which had one teacher for all eight grades. It was very difficult for the northern community to keep teachers, as most of the teachers were women who were afraid to stay in the teacherage by themselves. This resulted in many incomplete years in her schooling. Any education beyond Grade 8 was necessarily acquired through correspondence school, which did not appeal to her.

Her mother and aunts helped her with school work, as the teacher had very little time to spend with individuals. She recalled being taught to read by sounding out words. Books were not very available to her as a child, but she read whatever she could find, which was mainly newspapers. She loved school and once wanted to be a nurse.

Her health and school attendance were good, but her vision (for board work) was poor.

The only other training she had received was a typing course she took at Jasper Place Composite High School.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 186/200 Grade equivalent: High School.

ABLE, Level III, Form A

Test 1 - Vocabulary

Score: 44/60 Grade equivalent: 10.

Test 2 - Reading

Score: 40/60 Grade equivalent: 10.

Schonell Graded Word Spelling Test, Form A

Score: 65/100 Grade equivalent: 6.5.

The functional reading achievement level of Subject No. 5 was at the Grade 10 level with spelling achievement well below that. The overwhelming majority of spelling errors were due to omission of non-sounded letters (e.g., freez for freeze, mecanicle for mechanical, remitance for remittance) or substitution of similar sounding letters (e.g., signiture for signature, capasitty for capacity, dumestic for domestic). Such errors indicate phonetic spelling due to poor recall of the visual image of the word.

II. Manner of Processing Print

The achievement tests were analyzed for error patterns along with the following tests to provide information on the subject's processing of printed material.

Oral Reading Paragraphs

Cloze test

Bond-Clymer-Hoyt Syllables Test

A. Word Identification in Isolation and in Context

Subject No. 5 experienced difficulty primarily on the high school list of the SORT and on the Grade 14 passage of the Oral Reading

Paragraphs. Her errors were all mispronunciations but two, which were substitutions. The subject used the initial and final part of the words as well as configuration cues when attacking unfamiliar words. Errors were usually on the middle part of the word (e.g., affailable for affable, fasimal for facsimile, gustaritory for gustatory, elogies for eulogies). The few errors on the easier passages of the Oral Reading Paragraphs were substitutions which fit preceding context but not succeeding context.

On a task in which the subject was asked to divide words into syllables she had only eight of the sixteen correct. But she correctly pronounced all the words when asked to read them. This was likely due to the fact that she had not mastered syllabic generalizations but that the words on the test were familiar to her.

B. Comprehension

The comprehension ability of Subject No. 5 appeared to be Grade 10, as beyond this level difficulties increased. Errors on the Oral Reading Paragraphs were due to inattention to details in material read. It appeared the subject was attempting to read the passage smoothly and accurately, which may have drawn her attention away from the meaning of what was read.

The questions on the ABLE requiring one to go beyond the information explicit in the text (i.e., making an inference, generalizing) caused problems for the subject, indicating lack of ability with higher level comprehension strategies. The second part of the ABLE did not seem to cause much difficulty to the subject.

III. Correlates

The following tasks were administered to investigate factors which may be adversely affecting the subject's reading ability.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: 10th percentile

These results indicated the subject has a pronounced weakness in visual memory. This helped to explain her difficulties with spelling, as she would find it difficult to recall the visual image of the word.

B. Language Factors

Oral Expression

The subject's performance when retelling a story which was read to her or which she read silently was good. The information was recalled sequentially with all or most of the important points noted. Sentence variety however was quite limited as most of her sentences were simple sentences joined by and.

Written Expression

Performance on this task was comparable to a Grade 7 student. The subject used basic sentence structures with a few run-on sentences. As well, some of the information was omitted. It must be noted that the subject has not used her writing skills to any extent in her jobs and may be out of practice in using correct form.

Summary

The functional reading level of Subject No. 5 is approximately Grade 10. Word recognition skills, vocabulary, and literal comprehension are at or near that level.

Areas of weakness include spelling and written expression. Comprehension difficulties were experienced when the subject was required to make inferences or generalizations. While oral expression was adequate, alternatives to joining sentences or thoughts other than by and need inclusion in the subject's vocabulary.

A very poor visual memory for word forms was most likely the influential factor in her low spelling achievement.

Case Study No. 6

Personal History

Subject No. 6 was an 18 year old single woman who was most unhappy with her state in life but was undecided about what to do about it. She appeared to be rather defensive during the session and required encouragement in the testing.

After leaving school in Grade 10, she worked for 1½ years in a car wash. She tired of the job and returned to school to obtain her Grade 12 diploma, sponsored by Manpower. She enrolled in the course to brush up on her skills and find out "where she is" as she does not know in what skills she is weak. She was most unsatisfied with the course, but would lose the Manpower sponsorship if she dropped out. If she does obtain her Grade 12, she may subsequently attend the University. At present, she is not employed and lives at home with her parents.

Though words "give her trouble," Subject No. 6 reads "all the time" and enjoys any kind of book. She also watches some television. She did not elaborate on either of these points, though questioned further.

She felt there is a great need for more courses in reading improvement, but strongly believed they should be individualized. Her dissatisfaction with the present course stemmed from the fact that the students were primarily taught as a group but the ability levels were too varied for that to be successful. "Lots of us are not interested in what the others are doing" and "I am mostly bored with the course," were two comments she made.

Educational Background

Subject No. 6 began her education in a private school in Peace River, Alberta where they "pushed a great deal." She repeated Grade 2. The family then moved to British Columbia. She then attended a school "where you could do what you wanted" and remembered herself and others as "school bullies." From this point on, the family moved a great deal because of her father's company transfers, but they always completed the school year. The mobility "made us want to quit," and she "never got to know much." School attendance dropped off from this point on. Her parents never pushed, nor "cared if they went to school," particularly after they started to move around.

She remembered learning to read whole words rather than sounding words out. Her grades were average, and she has always had good health. She found great differences among the schools she attended and recalled most of them "were pretty bad." She completed Grade 9 and noted that English courses were mostly writing—we "just read books and wrote reports." She started Grade 10, attended for 1½ months, and then quit for good. After staying home for six months, she got the job at the car wash. She noted that of the nine children in her family, the three youngest were still in school, but the others had all quit before obtaining their diploma.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 149/200 Grade equivalent: 7.5.

Adult Basic Learning Examination, Level II, Form A

Test 1 - Vocabulary

Score: 39/50 Grade equivalent: 8.5.

Test 2 - Reading

Score: 54/58 Grade equivalent: 9.0.

Schonell Graded Word Spelling Test, Form A

Score 60/100 Grade equivalent: 6.0.

Subject No. 6 had a functional reading level of Grade 9 equivalency, with vocabulary ability somewhat lower. She experienced more difficulty when mediating words in isolation, indicating she was able to use context as an aid in word recognition. Spelling errors consisted primarily of substitution of similar sounding letters (e.g., resent for recent, dudies for duties) and omission of sounded letters (e.g., assit for assist, readly for readily). Both errors imply inaccurate visual image, while the latter errors may also indicate either poor auditory memory or discrimination. Other errors supported the auditory weakness symptoms.

II. Manner of Processing Print

The achievement tests were analyzed for errors, and the following tests were administered to provide additional information.

Oral Reading Paragraphs

Cloze test

Bond-Clymer-Hoyt Syllables Test

A. Word Identification in Isolation and in Context

When mediating an unknown word in isolation, Subject No. 6 attempted to use syllables, but had not mastered the rules. She also seemed unaware of accent generalizations and was therefore often unable to call a meaningful word. She erred on a number of endings (e.g., infect for infected, responsibility for responsible) and substituted with similar looking words (e.g., religion for region, miraculous for malicious). Both error types indicate she focused on the initial part of the word and used the word form to some degree, but did not then attempt syllable analysis on the words. She became easily frustrated as the words increased in difficulty, and needed encouragement to continue.

Her word identification in context demonstrated similar errors. However, many words had to be supplied to her on the more difficult passages, substantiating a low frustration level. She made many substitution errors, most of which fit the meaning of the sentence. While the errors indicated she was reading for meaning, they displayed carelessness in the lack of attention to graphophonemic information (e.g., generally for gently, unwoven for unwound, country for county).

B. Comprehension

Subject No. 6 comprehended material read at the Grade 8-9 level. She did somewhat better on material read silently. Both tests administered (ABLE—II, Oral Reading Paragraphs) checked comprehension at the literal level, so no information was obtained on her ability with other comprehension strategies.

She experienced difficulty on the Cloze test, as only half of her responses were correct. The errors showed that while many of her choices were grammatically correct, i.e., noun for a noun, verb for a verb, most were not semantically correct. This was due to the fact that she focused primarily on preceding context with little or no attention given to succeeding context.

III. Correlates

The following tests were administered in order to isolate factors which may be adversely affecting reading performance.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: 15th percentile

Detroit Aptitude—Test 13, Auditory Attention Span for Related Syllables

Score: Grade equivalency 6.

Both of these tests indicate pronounced weakness in memory ability which would have affected reading ability development both during school years and at the present. The scores helped to explain low spelling performance and word identification difficulties.

B. Language Factors

Oral Expression

Subject No. 6 was unable to retell a story that had been read to her, indicating the degree to which low auditory memory affected her performance. When retelling a story she had read silently, she gave most of the information but needed a probe question to recall the last part of the story. Her sentences showed little variety as she used and to join all the sentences. On the whole, she has unsophisticated, but competent oral language ability.

Written Expression

Performance on this task equalled that of a Grade 7 student. Sentences had little variety. She wrote two incomplete sentences revealing she has not mastered basic writing rules.

Summary

Subject No. 6 had strengths in that she read for meaning and used context as an aid in word attack, though limited to preceding context. Her comprehension of factual material appeared adequate.

She exhibited weakness in spelling, word identification, and written expression. As no data were obtained on comprehension requiring higher level strategies, this area would need more investigation. Influential factors adversely affecting reading included poor visual and auditory memory.

Case Study No. 7

Personal History

Subject No. 7 was a recently-married middle-aged woman who experiences much anxiety because of her reading and spelling difficulties. She holds a supervisory position as a skilled technician employed by the provincial government. In this job she is required to attend meetings with other provincial supervisors on a regular basis and was "scared to have to write something because of my spelling or to read something" at these meetings. She is obviously competent at her job, which primarily requires chart reading, as she has been at the same job for 25 years and progressed to the top position of supervisor.

At present, Subject No. 7 was living some distance from Edmonton in a small city where, according to her, no help was available for the improvement of literacy skills. However, it should be noted that she was very self-conscious and defensive regarding her weaknesses, wanting "no one to know of my inadequacies." Therefore, she traveled into Edmonton to attend the course, though not on a regular basis. She was eager to find something geared to her needs as she does not have a lot of time. She wanted to improve her spelling skills as well as her comprehension abilities. She noted that she sometimes has a hard time understanding business letters and other work-related materials, such as manuals. It is necessary for her to "go over them a few times in order to get it."

Though she has no leisure time right now, she does read the Edmonton Journal, the local paper and the Reader's Digest. Television "irritates her," so she does not watch it.

Educational Background

Subject No. 7 entered public school for the first time as a Grade 6 student. Her family lived in the Lac La Biche area but quite a distance from the school. Her father did not allow her to attend school because "he didn't believe in it." After he died, she was enrolled in school. Until that time, she was taught at home by her mother, though not on a daily basis, and learned by a sight word method. She stated she "never learned sounds," and "either knew a word or didn't know it." While in school she experienced difficulty in all areas, particularly in reading. She went as far as Grade 10, completing 28 credits towards her diploma. She was then offered a good job and as she was more interested in work than school, she accepted. She has taken a number of other courses over the years and has accumulated 44 credits, but noted that she avoided anything requiring writing or heavy reading in her course selections.

She cited as reasons for her difficulty the fact that her parents never seriously supported her education, and that she was never taught phonics and therefore cannot sound out new words. She definitely felt reading improvement courses for adults are necessary, but "couldn't describe a program as I really wouldn't know."

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 138/200 Grade equivalent: 6.9.

ABLE, Level II, Form A

Test 1 - Vocabulary

Score: 42/50 Grade equivalent: 9.0+

Test 2 - Reading

Score: 47/58 Grade equivalent: 7.0.

ABLE, Level III, Form A

Test 1 - Vocabulary

Score: 27/60 Grade equivalent: 9.0.

Schonell Graded Word Spelling Test, Form A

Score: 58/100 Grade equivalent: 5.8.

Subject No. 7 appeared to have a functional reading level of approximately Grade 7. Vocabulary ability was two grade levels higher, while spelling ability was lower than reading ability. Spelling errors consisted both of substitution of similar sounding letters (e.g., elc for else, eage for edge, discription for description) and omission of sounded letters (e.g., assit for assist, axious for anxious, vary for various). The former errors indicate phonetic spelling, whereas the latter errors indicate an inability to discriminate or pronounce the sounds within words. Notably, there were five instances of refusing to spell words.

II. Manner of Processing Print

The aforementioned achievement tests were analyzed for error patterns, along with the following administered tests.

Oral Reading Paragraphs

Cloze test

Bond-Clymer-Hoyt Syllables Test

Huelsman Word Discrimination Test, Form B—ALTA

A. Word Identification in Isolation and in Context

The errors Subject No. 7 made in word identification both in isolation and in context were predominantly ones of substitution. She focused on the initial part of the word and usually on ascending and descending letter cues while mediating a word, and then called a similar word (e.g., terrors for tremor, security for society, industry for industrious, comma for common). Inattention to word endings was a major cause of errors as exhibited by the fact that seven words ending in __nt or __nce were miscalled (e.g., present for presence, fragrance for fragrant). Errors on suffixes were also common (e.g., continuous for continuously, approximately for approximate, complex for complexion). Beyond the Grade 7 list on the SORT, there were many refusals. The subject would call a word almost immediately or else refuse to attempt to mediate it. She seemed unable to break the word down into its parts. This was substantiated by her performance on the Bond-Clymer-Hoyt Syllables Test where only seven of 24 items were syllabicated correctly. However, seven of 10 words were pronounced correctly, probably because they were familiar to her.

The substitution errors on words in context were equally divided as to whether they fit the meaning of the sentence or not. Interestingly, there was not one instance of a self-corrected error.

Finally, it was noted that on a task in which the subject was asked to visually discriminate a word which matched an auditory stimulus, she made three errors of 15 items. She circled slad for slab, thub for thud, and imqudent for impudent. As there were no other instances of orientation difficulties on any of the other tasks, it may be that at one time such problems affected her reading development but were now no longer significant.

B. Comprehension

The subject's performance on the ABLE was better than on the Oral Reading Paragraphs where she never answered better than 50 percent of the comprehension questions, though the paragraphs were graded from Grade 3 to Grade 6. While the stress of oral reading for the subject must be considered an influential factor, the difference in format of the two tests may be an additional factor. The Oral Reading Paragraphs required reading approximately 200 word passages and then answering the questions without looking back, whereas the reader on the ABLE needed only keep about 25 words in mind in order to answer the question. The ABLE also allowed one to refer back to the passage, making little demand on memory.

An analysis of the responses of Subject No. 7 on the Oral Reading Paragraphs indicated she was comprehending the general idea but missing details. Errors on the ABLE indicated she was missing the main idea, although usually some inferring was necessary. For an example, note the following:

"People are expected to vote as they think best on major issues in a country that is democratic. All people in a democracy, therefore, should be ________." The subject chose wealthy rather than informed. However, word identification difficulties may have been a causal factor in some of the errors.

The subject experienced great difficulty on the Cloze test, completing only nine of 38 blanks correctly. She was unable to use total context to get the idea of the passage and use of preceding and succeeding context was inconsistent.

III. Correlates

The following areas were investigated to determine factors which may be related to the subject's reading difficulties.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: Below 10th percentile.

These results indicated the subject has a pronounced weakness in visually remembering letters within words. They served to explain spelling difficulties, as well as problems recalling whole words which was the method by which she was taught to read.

Detroit Aptitude—Test 13, Auditory Attention Span for Related Syllables

Score: 81/129.

These results are comparable to a Grade 6 student's performance. Again, a pronounced weakness was exhibited. Though the subject was unable to repeat the sentences verbatim, she was usually able to recall the general meaning of the sentences.

B. Language Factors

Oral Expression

On both tasks examining this area the subject was unable to perform. When asked to retell a story that was read to her, she said, "I don't know what a chimpanzee is. Is it something like a chipmunk?" To alleviate the confusion, a passage about salmon was read. She produced one sentence containing erroneous information and was unable to correctly answer two probe questions. When asked to retell a story that she read silently, the subject attempted to relate the story verbatim but could not complete the first sentence. While poor auditory memory was a factor on the former task, her response on the latter task may point to the inappropriate strategies she used when attempting to remember what was read.

Written Expression

Performance on this task was equivalent to that of a junior high student. Most of the sentences were in correct form, though there was little sentence variety.

Summary

Subject No. 7 has a fairly good auditory vocabulary, a sight word vocabulary at Grade 7 level, and mastery of basic writing skills.

Specific weaknesses included an inability to break unfamiliar words into their syllables and apply symbol-sound association knowledge, comprehension, getting meaning from context, and spelling. Pronounced weaknesses in visual and auditory memory abilities were influential factors affecting reading development.

Case Study No. 8

Personal History

Subject No. 8, a middle-aged single woman, was enjoying a temporary pause in her career by attending a "brush up" course in both English and Mathematics. She was a very articulate woman who subscribed to both Reader's Digest and National Geographic. She also reads historical novels ("which focus more on people than on events") and geographical books. The Edmonton Journal was read occasionally. Her hobbies, other than reading, were cactus plants and walking. If she feels unsettled, she will watch television.

The subject's career began in Vancouver where she worked for 11 years, until "things had gotten to such a state that a move was necessary." She moved to Edmonton and worked for two companies, the last one for 15 years. She took great pride in her work and had progressed within each company through on-the-job training. When perceiving she was no longer progressing she would move to another company. This attitude appeared throughout the interview (i.e., continuing self-improvement). She noted that after summer was over, she would have to seriously start looking for a job.

Subject No. 8 felt that additional reading courses would be good, but noted that much depended on the people and the reasons they attend. She stated, "Some don't read and have no interest in reading and get the notion that if they attend a reading class they'll learn something, or improve in their reading. But, if they don't enjoy it, it's a waste of time." She personally would like a course where one could discuss what one read as "you learn more and it stays with you." She felt a good discussion on anything was well worthwhile ("even if it gets heated"), but noted that "everyone seems so afraid of voicing their opinion" and "hurting other people's feelings." If she can manage an evening class while working, she wanted to get into an English class "where there's more communication between the students."

Educational Background

Subject No. 8 completed Grade 8 in Trail, British Columbia. She was "a very good scholar. I was always at the top of my class." She left school when her mother decided to take a trip back to Italy. Then the war broke out and, though they were back in Canada, she did not return to school. When her mother died, she took a year-long business course in Trail, then moved to Vancouver and began her career.

She does not remember how she was taught to read, but recalled, "You learned as you went along." Though she was a good student, she had only the equivalent of four years attendance "due to various things, home situation." Her free reading while young consisted of comics, borrowed love stories, books an English teacher lent her, and school books. She never owned a library card until she got to Vancouver.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 198/200 Grade equivalent: High School.

ABLE, Level III, Form A

Test 1 - Vocabulary

Score: 56/60 Grade equivalent: 12.

Test 2 - Reading

Score: 45/60 Grade equivalent: 11.

Schonell Graded Word Spelling Test, Form A

Score: 98/100 Grade equivalent: 9.8.

The achievement levels of Subject No. 8 in all the above areas appeared to be at the senior high level. Considering she attended school only until Grade 8 with poor attendance during those years, she had progressed well on her own.

II. Manner of Processing Print

The above tests were analyzed for error patterns, and the following tests administered in order to obtain more information.

Oral Reading Paragraphs

Cloze test

A. Word Identification in Isolation and in Context

The subject's word identification skills were very good, both in isolation and in context. She exhibited no errors on the Grade 12 passage of the Oral Reading Paragraphs and only two mispronunciation errors on the Grade 14 passage.

B. Comprehension

An analysis of the subject's eight errors on the first part of the ABLE (45 items) showed that four of the errors were on questions referring to a passage containing American content (which later the subject indicated "was of no interest to her"). On the second part of the *ABLE* (15 items) the subject made seven errors. As the articles were not difficult, the memory aspect must have been a factor. This coincided with her performance on the *Oral Reading Paragraphs* (which do not allow referral back to the passages in order to answer the questions) where her comprehension was zero on the Grade 10 passage and 25 percent on the Grade 12 and Grade 14 passages.

Based on performance on the *Cloze* test, the subject appeared to have good knowledge of language structure, and used contextual clues well in obtaining meaning.

III. Correlates

The following tasks were administered to determine ability in areas directly related to reading.

Language Factors

Oral Expression

The subject's oral expression ability was extremely good. However, she omitted many details in retelling both stories though noting the general ideas well. She elaborated the stories using experiential background rather than staying with the information presented explicitly. It was the examiner's impression that the tasks were somewhat difficult for her, and that obtaining and organizing information in her mind was a problem area. More testing would be suggested.

Written Expression

The subject's performance on this task was excellent. Sentences were well-formed with good variety exhibited, which indicated mastery of basic writing skills.

Summary

Subject No. 8 exhibited many strengths, which included word identification, comprehension (if no memory requirement), use of context clues, oral and written expression, and spelling.

The only weakness exhibited by the subject was in comprehension. Specifically, there were problems remembering what was read orally (an uncommon experience for most adults).

Case Study No. 9

Personal History

Subject No. 9 was a 24 year old single man who enrolled in the course for the purpose of preparing for English 30, a requirement for Grade 12 matriculation. He hoped to eventually get into architecture at NAIT. He lives with his parents and works part time in his dad's shop. He reads the newspaper and an occasional magazine, but does not read books or watch television.

Since he has been out of school, he has traveled to the States and "had a lot of fun." He mentioned the Haight-Ashbury section of San Francisco and the Sunset Strip of Los Angeles where he indulged in "pot and LSD, etc."

He felt there should be other courses available for reading improvement, but "different from this one," and "more suited to each person in the class."

Educational Background

Subject No. 9 attended school in Vancouver from Grades 1 to 4. He did not remember how he was taught to read as it was "too long ago." He failed Grade 2, which caused him resentment and remembered the Grade 2 teacher as "young, and not knowing much," and his "getting the strap or ruler quite often." He attended Grades 5 through 8 in Edmonton. He didn't find much difference between the schools but noted that it was "pretty heavy, teachers are pretty heavy." His attendance was very good and he has never had problems with vision or hearing. His parents did not push him in his education and he did what he wanted to do. He attended "until he couldn't handle it no more" and left after Grade 8. Reading was always a problem for him in that he "can read it with no trouble but can't remember it." A tutor was provided for him in junior high but didn't seem to help him.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 193/200 Grade equivalent: High School.

ABLE, Level II, Form A

Test 1 - Vocabulary

Score: 35/50 Grade equivalent: 6.9.

Test 2 - Reading

Score: 50/58 Grade equivalent: 7.8.

Schonell Graded Word Spelling Test, Form A

Score: 92/100 Grade equivalent: 9.2.

The subject was functioning at beginning senior high level in sight word and spelling ability. Reading and vocabulary achievement were at junior high level. Spelling errors consisted primarily of substitution of similar sounding letters (e.g., hydrolic for hydraulic, curtious for courteous), followed by omission of unsounded letters (e.g., gurantee for guarantee, exibition for exhibition). However, considering the subject does not use spelling skills regularly, his performance was very good.

II. Manner of Processing Print

The achievement tests were analyzed for error patterns and the following tests administered in order to obtain information on how the subject processes material read.

Oral Reading Paragraphs

Cloze test.

A. Word Identification in Isolation and in Context

The subject's performance on the SORT indicated his word identification ability was good. All of the words called correctly were sight words or mediated quickly. Four errors were mispronunciations, two were syllable omissions and one was a letter sequence error. It seemed likely the words were not in his vocabulary as he kept attempting to call a word that was familiar.

On the two passages (Grade 6 and 8) of the Oral Reading Paragraphs the subject was asked to read, he made only two errors. Phrasing and reading pace were natural and smooth.

B. Comprehension

Subject No. 9 was unable to answer any of the questions on the Oral Reading Paragraphs. He indicated that this was his main problem in reading and could never remember what he had read unless it was important to him or was about a familiar subject.

His acceptable performance on the ABLE was due to the fact that he could refer back to the passage read, alleviating any memory requirement.

On a task in which the subject was asked to fill in blanks in a story, the words he chose were generally grammatically correct and fit the meaning of the preceding context. Most of his errors were due to lack of attention to the context which immediately followed the blank.

III. Correlates

The following tasks were administered to determine ability in areas directly related to reading.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: 60th percentile.

This score indicates that the subject's ability to visually remember letters within words is slightly above average. His comment that he usually has no difficulty with spelling was probably based on his success with words with which he was visually familiar. As he was given more difficult words to spell, he reverted to spelling phonetically, most likely because he was not accustomed to seeing them in print.

Detroit Aptitude-Test 13, Auditory Attention Span for Related Syllables

Score: 71/129.

This score is equivalent to an elementary level student and would indicate the subject has a pronounced weakness in auditory memory ability.

B. Language Factors

Oral Expression

The subject was unable to complete either of the tasks given him, which required that one obtain information either from material heard or read, organize it and then present it orally. This was consistent with his performance on the Oral Reading Paragraphs and on the Detroit Aptitude, Test 13.

Written Expression

The subject's performance on this task was comparable to that of a Grade 12 student.

Summary

Subject No. 9 had strengths in the areas of word identification, auditory vocabulary, spelling and written expression, and the use of context clues.

His specific weakness was comprehending material heard or read. A pronounced weakness in auditory memory was most likely an influential factor.

Case Study No. 10

Personal History

Subject No. 10 was a married woman in her late 20's who was employed as a lens grinder by an optical lens company. She had been attending the evening class for three months for the purpose of improving her language skills. She was born and raised in Surinam so is fluent in the native dialect as well as Dutch, which was the language taught in the schools.

At the age of 16, she moved to Holland and joined her married sister who was teaching. During her 6½ year stay in Holland, the subject worked as a seamstress and completed a two year commercial evening course. After she married, she moved to Edmonton, Canada.

Though she has lived in Canada for only two years, she speaks English very well. To improve her skills with written English, she reads newspapers and books for two to three hours daily. As well, she enjoys some television programs.

She was enjoying the course and felt it suited her needs, but noted that others in the class have different problems so perhaps were not getting as much out of it.

Educational Background

Subject No. 10 attended school in Surinam until she was 15. It was compulsory to stay in school until the age of 16, but her parents did not push her and she didn't like school anymore, so she quit early. She believes she completed the equivalent of Canadian Grade 10. Schools in Surinam are much the same as Canada's in that there was one teacher per grade until Grade 6, when pupils change rooms for each subject. She claimed she was an average student with no unusual difficulties in any subject area. She described her ability with the English language as follows, "I can read pretty well and understand what I read. If I don't I grab a dictionary."

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 162/200 Grade equivalent: 8.1.

ABLE, Level II, Form A

Test 1 - Vocabulary

Score: 27/50 Grade equivalent: 4.8.

Test 2 - Reading

Score: 47/58 Grade equivalent: 7.0.

Schonell Graded Word Spelling Test, Form A

Score: 57/100 Grade equivalent: 5.7.

Subject No. 10 had a functional reading ability at the junior high level. Vocabulary and spelling achievement were somewhat lower. Spelling errors were predominantly due to substitution of similar sounding letters (e.g., discripsion for description, verious for various, mecannicle for mechanical). The fact that English was a second language and she had little recourse to the visual image of the word affected her performance. Her knowledge of phonic generalizations was good.

II. Manner of Processing Print

The achievement tests and the following tests were analyzed for error patterns in order to obtain information on the subject's manner of processing print.

Oral Reading Paragraphs
Cloze test
Bond-Clymer-Hoyt Syllables Test

A. Word Identification in Isolation and in Context

An analysis of the subject's errors on the SORT indicated she used syllables when mediating a word, but erred either on symbol-sound associations or accentuation, causing most of the errors to be mispronunciations (e.g., spe'ctaclar for spectacular, intr'icate for intricate, remin'iscence for reminiscence). The words on the high school list were unfamiliar to her, and therefore she called only four correctly. Her word recognition difficulties may in part be due to the fact the word was not in her oral vocabulary.

The subject's performance on the Oral Reading Paragraphs indicated she used the same word identification strategies on words in context, but was able to use the context to some degree as an aid in word pronunciation. She made only five errors on the Grade 12 passage.

B. Comprehension

Subject No. 10 comprehended only 50 percent of the material read on the Grade 6 passage of the Oral Reading Paragraphs and only 25 percent on the Grade 8, 10, 12 passages. Certainly, lack of vocabulary was a factor here. This performance might also indicate problems with retaining information read, as performance on the ABLE, which allowed referral back to the passages, was somewhat higher.

On the Cloze test given her, the subject completed half the blanks, most of which were correct. This would indicate she was able to use context to get meaning. Errors were due to attending to preceding context without using succeeding context.

III. Correlates

The following tasks were administered to determine ability in areas directly related to reading.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: 15th percentile.

This score indicated that the subject was weak in her ability to visually remember letters within words. This would help to explain her difficulties with spelling. As she could not recall the visual image of the word, she spelled it phonetically. However, though the items were not real words, they did exemplify common letter sequences in English which may have caused her problems.

Detroit Aptitude—Test 13, Auditory Attention Span for Related Syllables

Score: 71/129.

This score is equivalent to a student at the upper elementary level, and disclosed that the subject's auditory memory ability was low. The fact that English is a second language most likely was an influential factor. In all cases, the subject was able to repeat the general idea of the sentence.

B. Language Factors

Oral Expression

The subject was able to recall only half of the important points of the story which was read to her, while nearly all of the points were recalled of the story she read silently. Her weak auditory memory and language background were likely influential factors.

The information related by the subject was sequential, but awkward phrases were used. However the meaning of the sentences was apparent and easily understood.

Written Expression

Performance on this task was comparable to that of a Grade 12 student. Her work exhibited good knowledge of writing skills and variety in sentence structures.

Summary

Subject No. 10 appeared to have strengths in word identification (particularly on words in context), and in written expression.

Weaknesses were found in vocabulary, comprehension, oral expression, and spelling.

Poor visual and auditory memory abilities are most likely impeding her progress, as well as her unfamiliarity with English.

Case Study No. 11

Personal History

Subject No. 11 was a 28 year old single man from Trinidad, who had lived in Edmonton for six months. He had been attending the English course for three months, and hoped it would upgrade his skills enough so he could enter the Grade 12 matriculation program. His goal was to eventually become enrolled in a school where he could learn the mechanics trade. At present he was neither employed nor sponsored to attend school. He was living with his sister who had been in Canada for a number of years.

Other than the daily classes he attended, he spent his day training in track and field for the Edmonton Ski Club as well as practicing with a music group in which he played the steel pan. This group plays at cultural events in the city and recently performed at the Provincial Museum. Though he considered his music a hobby, he planned to enroll in a music course this summer.

After his course work is finished in the evening, he enjoys television, as he believed it helped his language. He stated he knows no language other than English, yet the dialect spoken in Trinidad is quite different from standard English, and it was sometimes difficult to understand him.

He felt he was doing better in his Math prep class than in the English prep class, and has permission to take Math 30 next semester. He, however, enjoys all his classes.

Educational Background

Subject No. 11 attended school until the age of 15 at which time he completed standard 6 which he believes is approximate to Canadian Grade 8. The school he attended was in the "country part" of Trinidad where there were many children of different ages in a class. Though his parents did not support him in his education, he did attend regularly. He remembered being taught to read the whole word, rather than "to section it off." All the books that were available for him to read were school books.

He subsequently received training in a music school course in Trinidad, which was sponsored by the government.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 146/200 Grade equivalent: 7.3.

ABLE, Level II, Form A

Test 1 - Vocabulary

Score: 25/50 Grade equivalent: 4.4.

Test 2 - Reading

Score: 47/58 Grade equivalent: 7.0.

Schonell Graded Word Spelling Test, Form A

Score: 50/100 Grade equivalent: 5.0.

Subject No. 11 appeared to have a functional reading ability at the junior high level. Vocabulary and spelling scores were at the elementary level. Spelling errors were primarily substitutions of similar sounding letters (e.g., welfair for welfare, surch for search, demmage for damage). Likely, dialect differences influenced his spelling performance as in vowel and some consonant substitutions.

II. Manner of Processing Print

The achievement tests were analyzed for errors and the following tests administered to provide information on the subject's manner of processing print.

Oral Reading Paragraphs

Cloze test

Bond-Clymer-Hoyt Syllables Test

Monroe Diagnostic Reading Examination—Test 8.

A. Word Identification in Isolation and in Context

An analysis of the subject's errors on the SORT indicated he used the initial part of the word when mediating an unknown word, and to some degree the middle and final part of the word (e.g., timed for timid, consequencely for consequently, inflection for infected). Some errors of mispronunciation were due to incorrect accentuation, while others were caused by not syllabicating and mediating each part (e.g., remenses for reminiscence, prompability for promptly, profital for profitable). The subject has not mastered syllable generalizations (as indicated by his performance on the Bond-Clymer-Hoyt Syllables Test), but nevertheless pronounced many of the words correctly. This is most likely because the words were familiar to him.

Errors on the Oral Reading Paragraphs exhibited the same patterns as noted above. His substitutions on the easier passages fit the meaning of the sentence whereas on the more difficult passages they did not.

On a task in which the subject was asked to visually discriminate a word spoken by the examiner, he experienced difficulty (29 of 47 correct). Errors consisted of letter substitutions (mostly consonants), letter additions, and letter sequence confusions. This would indicate difficulties in matching a visual image with an auditory stimulus.

B. Comprehension

The subject's comprehension appeared limited to junior high level. His performance on the Oral Reading Paragraphs varied considerably, ranging from 0 to 80 percent comprehension, and seemed related to the passage content rather than passage difficulty. He comprehended 75 percent of the Grade 8 passage material, which was approximate to his score on the ABLE—Reading test. Vocabulary difficulties most certainly affected comprehension ability.

On the Cloze test, the subject was only able to fill in 17 of 37 blanks, half of which were wrong. He used preceding context primarily. When asked to read the passage, he altered words and punctuation which corrected his choices. This indicated an awareness of English sentence structures and of reading to make sense.

III. Correlates

The following tasks were administered to determine factors which may be affecting the subject's development in reading.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: Below 10th percentile.

This score indicated a pronounced weakness in visually remembering letters within words, which affected his spelling ability.

Detroit Aptitude—Test 13, Auditory Attention Span for Related Syllables

Score: 69/129.

This score was comparable to that of an elementary level student, indicating low auditory memory ability.

B. Language Factors

Oral Expression

Subject No. 11 had difficulty retelling a story that was read to him. He produced two sentences, followed by phrases which indicated he was not clear on the meaning of the passage, or at least could not express it. Weakness in auditory memory was likely an influential factor.

The subject did better on the passage he read silently, as he was able to relate most of the information. However, the sentences were all the same structure, and there were 23 mazes (unnecessary words, false starts) produced. As this same pattern was noted during the interview, oral expression in formal English could be a source of difficulty. This would, of course, influence his ability to understand written formal English.

Written Expression

The subject's performance was approximate to the Grade 7 level. Most of the sentences were short simple sentence structures. However, some errors showed that formal English structures have not been mastered (e.g., It is finally yield a chemical of white powdery alumina which is a mixture contains oxygen.). This substantiates findings on the oral expression tasks.

Summary

Subject No. 11 was achieving at the junior high level in reading. It appeared he had mastered basic symbol-sound relationships, but was impeded in his word identification by a lack of expertise in syllabicating words correctly and mediating each part.

Spelling and vocabulary were both areas of weakness for the subject, along with oral and written expression difficulties. All of these areas were most likely affected by his lack of familiarity with formal English structures. The subject also exhibited problems on a task when asked to match a visual cue with an auditory stimulus, perhaps indicating auditory discrimination lags.

Poor visual and auditory memory ability most certainly adversely influence his development.

Case Study No. 12

Personal History

Subject No. 12 was a middle-aged woman who was attending an English 33 class in the day and the English improvement night course for reinforcement of skills. She wanted to upgrade herself so she could get a job with a reasonable wage as she must support herself. She needed to find out what she knew and could do, and now seemed to have an idea. Recently she was voted vice-president of a group in the city involved in a heritage project. She enjoys this activity so much she wants to eventually get into courses dealing with heritage, culture, or tourism and work for the government.

Her reading consisted primarily of material for the English 33 class, but she did read the newspaper and watch television when she is relaxing.

The subject was born in a small town in Alberta where "her parents' language" was spoken along with English. She was bilingual before entering school. At 17, she attended a hairdressing school in Edmonton and soon after married and moved to Vancouver. She had a son who was very ill and had to spend five of his childhood years "flat on his back," requiring a great deal of care.

The family moved back to Edmonton about 20 years ago. Her son married and moved to the coast, and her marriage had recently broken up so she returned to school as a preparation for employment. She has a handicap (club foot) which affects her employment status and suitability, but she had worked as a seamstress at a hospital and as a clerk in a government office. She was interested in obtaining a job that "would be less competitive with my handicap and my age and where I'll fit in."

This woman believed very strongly in education for adults, and that courses should be especially developed for them. She stated, "Their [adults] minds are not as used to going to school. I did not do much reading or participate in things that would have to do on your memory so when I came back to school I had a hard time even thinking—my mind was tired. And, of course, you're a lot slower. I think all adults should be given a five month term so they could have time to adjust and learn."

Educational Background

Subject No. 12 attended a small country school that had nine teachers for 12 grades. The primary and elementary grades were divided into two classrooms. There was no individual instruction or attention. She recalled learning to read by whole words rather than by sounds. She attended school regularly as "her parents believed in school very much." However, she was needed at home after Grade 9 as the Depression had hit and five younger children were still in school. A few years later she attended a trade school in Edmonton.

She had some interesting recollections of her childhood which surfaced in response to the interview questions. She remembered all the children in her family sitting at the kitchen table doing homework near the coal-oil lamp. Also, she recalled how scarce books were, and how avidly the children shared the few available school books. She noted that she just learned how to use a library catalogue three days back, and at last felt comfortable in a library.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 184/200 Grade equivalent: High School.

ABLE, Level III, Form A

Test 1 - Vocabulary

Score: 45/60 Grade equivalent: 11.

Test 2 - Reading

Score: 31/60 Grade equivalent: 9.

Schonell Graded Word Spelling Test, Form A

Score: 84/100 Grade equivalent: 8.4.

Subject No. 12 had good vocabulary and word identification skills. Reading and spelling achievement were at the junior high level. Spelling errors consisted of substitution of similar sounding letters (e.g., courtious for courteous, garantie for guarantee) and omission of unsounded letters (e.g., attorny for attorney, aniversary for anniversary), both of which indicate phonetic spelling with poor visual image of the word.

II. Manner of Processing Print

The aforementioned achievement tests were analyzed for error patterns, and the following tests administered in order to obtain information on the subject's manner of processing print.

Oral Reading Paragraphs

Cloze test

A. Word Identification in Isolation and in Context

An analysis of the subject's performance on the SORT indicated that when attacking an unknown word she attempted to use syllables and mediate the word parts. Errors were usually on the final syllable (e.g., terrance for terrace, depreciate for deprecate, pandeminum for pandemonium, envisive for envisage).

She experienced difficulty only on the Grade 12 and Grade 14 passages of the Oral Reading Paragraphs. All of the errors were mispronunciations caused by incorrect syllabication or symbol-sound association errors (e.g., daphin for dauphin, elogies for eulogies, parofes for Pharaohs).

B. Comprehension

Subject No. 11 had trouble on the Grade 12 and Grade 14 passages of the Oral Reading Paragraphs. Word identification and vocabulary problems were factors as her oral reading changed in pace from a smooth well-intonated pattern to a halting word by word pattern.

Performance on the ABLE indicated the subject had not developed the ability to make inferences and form generalizations. She seemed quite able to answer questions that referred to information stated explicitly in the text. The second part of the test caused some difficulty (8 of 15 correct) indicating the subject most likely did not retain the information read, as the text was not too demanding.

On the Cloze test, the subject's choices were usually grammatically correct, but did not fit the meaning of the sentences.

This was due to the fact she used preceding context with little attention to succeeding or total context. It was noted that the subject was tiring by this time which likely affected her concentration.

III. Correlates

The following tasks were administered to determine factors which may be adversely affecting the subject's development in reading.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: 10th percentile.

These results indicated the subject was weak in the ability to visually remember letters within words. This served to somewhat explain her spelling difficulties, as she was limited to spelling the words phonetically.

Detroit Aptitude-Test 13, Auditory Attention Span for Related Syllables

Score: 102/129.

This score is equivalent to high school level performance and displayed a much stronger auditory memory compared to the subject's visual memory.

B. Language Factors

Oral Expression

In both cases, the subject presented the general points of the passage while omitting some details. Oral expression was not an area of difficulty for the subject, as she spoke in well developed sentences which varied in structure.

Written Expression

The subject's performance on this task was comparable to the Grade 7 level. She used basic sentence structures well in rewriting the passage.

Summary

The subject's strengths appeared to be auditory vocabulary, word identification in context, literal comprehension, and oral and written expression.

Spelling and comprehension at the inferential level caused some difficulty to the subject. Low visual memory most likely influences spelling ability, as she is unable to retain a visual image of the word.

Case Study No. 13

Personal History

Subject No. 13 was a 19 year old single man from British Guiana. His family immigrated to Canada in February, 1975, and he immediately began to attend school here. He enrolled in the required preparation courses necessary for admittance into the Grade 12 matriculation program. His long-term goal was to attend the Northern Alberta Institute of Technology (NAIT) and learn the mechanics trade. Having just recently obtained employment as a day worker at a factory that retreads tires, the subject was now unable to attend the morning classes, and hoped to enroll in evening classes next term. As he had previously volunteered to take part in the study, he generously arranged to take time off from his job and meet with the writer for the interview and testing session.

Though his free time was now limited, Subject No. 13 tries to read as much as possible. He works in his school books, reads the newspaper, and reads "other books" for practice. He watches television and attends an occasional movie, both of which help him speak and understand Canadian English better. Though he knows no other language than English, he does speak the language with a dialect which was sometimes hard to understand unless he talked slowly. It also appeared that conversation caused him some difficulty as he often asked for statements to be repeated.

Educational Background

Subject No. 13 received his education at a British school where he completed the Third Form. He left school at age 13 as he didn't like it. He remembered doing a lot of "geography, physics, chemistry and biology." He noted, "I didn't read much when I go to school. I only wait until 3:00 when I get off school." In response to the question concerning parental pressure he stated, "My mother was not at home and my father he care nothing, you see no reward, so the boys I follow, they all work in the rice fields, so I skip school with them and go to the rice fields." After he quit school, he had to work in the rice fields regularly as his father "didn't go to the fields." This was a family necessity as he is the only son and he has five sisters still of school age.

He was enjoying his present school experience immensely and noted, "Now I like school. Every moment I get I could go to school, but before I didn't like it at all."

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 138/200 Grade equivalent: 6.9.

ABLE, Level II, Form A

Test 1 - Vocabulary

Score: 31/50 Grade equivalent: 5.6

Test 2 - Reading

Score: 43/58 Grade equivalent: 5.8.

Schonell Graded Word Spelling Test, Form A

Score: 63/100 Grade equivalent: 6.3.

Subject No. 13 was achieving in all areas at the elementary level of approximately Grade 6 equivalency. Spelling errors indicated the subject spells phonetically, as he substituted similar sounding letters (e.g., attendence for attendance, machanical for mechanical), or omitted non-sounded letters (e.g., interfer for interfere, serch for search).

II. Manner of Processing Print

The achievement tests were analyzed for error patterns, and the following tests were administered to provide additional information regarding the subject's processing of printed material.

Oral Reading Paragraphs

Bond-Clymer-Hoyt Syllables Test

Cloze test.

A. Word Identification in Isolation and in Context

An analysis of the subject's performance on the SORT indicated that he focused on the initial letter or initial part of the word as a cue, and then substituted another word (e.g., figure for future, definite for define, distant for dignity, religion for rebellion). The few times he did not substitute a word and attempted to mediate the syllables, he was unable to do so correctly (e.g., promotely for promptly, conquesly for consequently). His unfamiliarity with syllables was further exhibited on the Bond-Clymer-Hoyt Syllables Test on which he divided only 12 of 24 correctly. However, he did pronounce

15 of 17 correctly, most likely because they were sight words.

Accuracy errors on the Oral Reading Paragraphs were of the same pattern as those on the SORT. For the most part, the substitution errors did not fit the meaning of the passage, as the subject attended to minimal graphic cues rather than on the meaning of what he had read.

B. Comprehension

On the Oral Reading Paragraphs, the subject never received more than 60 percent for a comprehension score. Word identification did not appear to be an influential factor either, as his maximum number of errors was nine. His performance on the ABLE, however, seemed to be affected by vocabulary and word recognition difficulties. On the first half of the test, he had only three errors, while on the second half of the test he had 12 errors. As the test evaluated ability on Grade 4 to Grade 8 level material, most of his errors were on the higher level passages.

On the Cloze test, the subject's errors were usually grammatically correct, but semantically incorrect due to inattention to noun-verb agreement. While it was apparent he comprehended the passage, he was limited both by vocabulary problems and by a somewhat limited knowledge of formal English.

III. Correlates

The following tasks were administered to determine ability in areas directly related to reading.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: 10th percentile.

This score indicated a pronounced weakness in visually remembering letters within words. Though the subject attempted to recall the words by grouping the letters, his lack of expertise in syllabication most likely affected his ability to do that efficiently. Such a low visual memory ability helped to explain his phonetic emphasis when spelling, as he was unable to recall a visual image of the word.

Detroit Aptitude-Test 13, Auditory Attention Span for Related Syllables

Score: 67/129.

This score is comparable to an elementary level student, indicating a low auditory memory ability. However, the subject's lack of a formal language background must be considered an influential factor, as he was able to repeat the general meaning of each sentence, though not repeat the sentence verbatim.

B. Language Factors

Oral Expression

The subject did a little better retelling the story he had read himself, though on both tasks he presented most of the general ideas. However, his wording often illustrated his lack of familiarity with formal English usage (e.g., "When they captured you can train them to eat with fork, ride a bicycle.").

Written Expression

The subject has mastered most basic writing skills (i.e., sentence form, capitalization), though awkward words or phrases were used occasionally. As well, the subject obviously misunderstood some of the information as he rewrote it incorrectly.

Summary

Subject No. 13 seemed to have acquired a level of development in reading that approximates that of an elementary student.

Specific weaknesses which were affecting his further development included an unfamiliarity with formal English structures, and low visual and auditory memory.

Case Study No. 14

Personal History

Subject No. 14 was a 30 year old married man with two preschool age children. He was presently employed as a letter carrier and enjoyed his job, particularly the hours, but "think I should learn a trade such as meat cutting." He was reluctant though to "give up something I'm sure of" because of family responsibilities. He was a new enrollee in the improvement course and was interested in "learning to read properly" for the purpose of enjoyment. At present, he doesn't read anything other than an occasional item of interest that "doesn't go on and on." His leisure time was spent in the outdoors, enjoying ice fishing, camping, gardening, and time with his children.

A few years ago he received a management course from the company where he was employed but left the company soon after as he did not care for the work. He had also completed a taxidermy course. While he indicated satisfaction with his present job, he was considering a change but simply does not "know what I really want."

Subject No. 14 believed he had benefitted from the improvement course, though it was "very basic." He believes there is a need for such improvement courses as he knows "a lot of people who have trouble." He recommended a course that would continue for two or three months with nightly attendance required, as one in which "you'd probably learn a lot more." He planned on continuing with school in the fall term.

Educational Background

Subject No. 14 received his education in Edmonton. He quit after completing Grade 11, but later finished Grade 12 through correspondence school. He experienced great difficulty in school, repeating Grades 4 and 9. His problem area was Reading, which affected his performance in all subjects but Math. Though he does not remember how he was taught to read, he believed he was not "taught the proper way." He stated, "If they saw my difficulty, they should have said to my parents to help him" but noted that he never received any extra help. Because of his reading problems, he never read much as a child other than the "first or three lines and then the ending.

The fact that he was older than his classmates, and therefore self-conscious, caused him to quit school. His grades, which he termed neither good or bad, never varied much. He "worked real hard in Grades 7, 8 and 9 and it didn't seem to do much good. I didn't do anything in Grades 10 and 11 and did alright." In addition to this observation, he recalled, "I used to take home all my homework books and my friends took home free reading books and they're a lot smarter than I am. That's the key to it—reading ability." His parents did not push him at all in his education which he claimed affected his attitude towards school.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 176/200 Grade equivalent: 8.8.

ABLE, Level III, Form A

Test 1 - Vocabulary

Score: 49.60 Grade equivalent: 12.

Test 2 - Reading

Score: 45/60 Grade equivalent: 11.

Schonell Graded Word Spelling Test, Form A

Score: 84/100 Grade equivalent: 8.4.

Subject No. 14 had a functional reading level of Grade 11, but a somewhat lower ability on words in isolation. Auditory vocabulary was at the senior high level, while spelling was at the junior high level. Spelling errors indicated phonetic spelling, as the predominant errors were substitutions of similar sounded letters (e.g., capassity for capacity, courtious for courteous, definate for definite).

II. Manner of Processing Print

The achievement tests were analyzed for error patterns and the following tests administered to obtain more information on the subject's manner of processing print.

Oral Reading Paragraphs

Cloze test.

A. Word Identification in Isolation and in Context

The subject made a number of substitution errors on the Oral Reading Paragraphs, most of which fit the meaning of the sentence. As the passages increased in difficulty, mispronunciation errors increased. When the subject was mediating an unknown word, he attempted to use syllables and mediate the parts but usually erred on the middle part of the word (e.g., parental for parietal, ingrating for ingratiating, colested for coalesced). The same type of errors were found on the SORT, most of which were on the high school list.

B. Comprehension

The subject's comprehension on the Oral Reading Paragraphs was 80 percent correct on the Grade 6 passage, but dropped to 50 percent or below on the higher passages. His answers indicated he understood the general idea of the passages, but was unable to recall many of the details solicited by the questions. His performance was much better on the ABLE, perhaps because he was more accustomed to reading silently and was therefore tense reading orally which affected his concentration. As the recall of details was not a problem for him on the second part of the ABLE, it appeared that the oral reading aspect was a factor. Errors on the first part of the ABLE exhibited an inability to make inferences. However, there were also several errors on questions which were answered explicitly in the text.

On a task in which he was asked to fill the blanks in a story, the subject completed all 38 blanks, 27 of which were correct.

In examining his errors, most of the choices were semantically and grammatically incorrect due to inattention to succeeding context clues.

III. Correlates

The following tasks were administered to determine ability in areas directly related to reading.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: Below 10th percentile.

These results indicated the subject has a pronounced weakness in visual memory ability. This helped to explain somewhat the emphasis on phonetic spelling he exhibited.

B. Language Factors

Oral Expression

On both tasks the subject was able to retell the story clearly, and in sequential order. All of the important points of the passages were related. The sentences showed little variety and all of the sentences were connected by and, which exhibited an informal manner of speech. Auditory memory appeared to be good, based on the subject's performance on that particular task in which he related a story he had heard.

Written Expression

The subject produced a writing sample which was well above the Grade 12 competency level, indicating he had attained adequate ability in written language skills.

Summary

Subject No. 14 had many strengths including word identification in context, vocabulary, use of context, oral and written expression, and literal comprehension.

He had some difficulty with spelling, and in comprehending material at the inferential level. He had a pronounced weakness in visual memory and while this was an influential factor in his spelling difficulties, it appeared he has compensated for this weakness by using his phonic knowledge well.

Case Study No. 15

Personal History

Subject No. 15 was a 19 year old single woman who was desperately trying to learn to read. She had been attending the class for three months and walks over three miles to get there as "I don't know how to take a bus." She would like to be able to get a job for some income, but was presently concerned about "keeping my mind occupied" as she gets depressed otherwise.

At present, she and a friend share an apartment for which they are "just able to pay the rent." Her friend helped her with spelling and had found some primary level books for her which she tries to read. Reading was very difficult for her and she noted, "Sometimes I get frustrated and very mad." There is no television available, and she had no hobbies. She was new to Edmonton so knew no other people. When she first arrived in the city, she found a job as a dishwasher in a cafe, but only worked there for three months.

She was enjoying the class, but felt it was not enough for her and had found no other school to attend.

Educational Background

Subject No. 14 was born in Montreal but literally remembered nothing of her childhood years. Her mother died when she was 10, and she went to live with her grandmother in Toronto. At this point she stated, "I didn't know nothing, not my name, where I lived, nothing." All she remembered was going to some school and playing with blocks.

In Toronto she was placed in an Opportunity class with Grade 1 and 2 children. Then "They put me in a special room where we made cakes, and popcorn, and alphabets." At age 14 she was sent to Taber Park Vocational School where she stayed for two years. Here she "learned my names, and stuff, and some trades. Not much, though, because you needed more reading to learn those trades."

After leaving school she lived with an aunt and uncle, but the home situation was very bad so she left. She attempted to live on welfare, then worked as a dishwasher, and finally got a job in a perfume factory. When she had saved some money, she and a friend came to Edmonton. She had received no other training of any kind.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 54/200 Grade equivalent: 2.7.

ABLE, Level I, Form A

Test 1 - Vocabulary

Score: 31/50 Grade equivalent: 3.3.

Test 2 - Reading

Score: 46/51 Grade equivalent: 6.0*

Schonell Graded Word Spelling Test, Form A

Score: 13/100 Grade equivalent: 1.3.

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*The subject was unable to read the test independently. The examiner read the passages orally, but not the choices, and the subject marked an answer.

Subject No. 15 could not function independently in reading materials beyond the primary level, and spelling skills had not progressed beyond the Grade 1 level. Vocabulary ability was somewhat higher than her reading ability, but considering the ABLE is a test of auditory vocabulary, her vocabulary was not an area of strength. The Reading test performance (as given) indicated that comprehension ability was far above word recognition ability and could be considered her present level of potential if word recognition difficulties were overcome.

II. Manner of Processing Print

The aforementioned tests were analyzed for error patterns and the following tests administered to provide more information on the subject's manner of processing printed material.

Oral Reading Paragraphs
Alta-Boyd Test of Phonic Skills
Huelsman Word Discrimination Test, Form B
Monroe Diagnostic Reading Examination, Test 8.

A. Word Identification in Isolation and in Context

The subject had not mastered all the basic symbol-sound associations. As well, errors on other tasks which evaluated her ability to visually discriminate words which matched either a visual stimulus or an auditory stimulus showed persistent orientation errors (e.g., b/d, u/n, p/d, p/b), sequence errors (e.g., snug for sung, sopt for spot), and word reversals (e.g., on for no, was for saw). All of these factors were affecting her word identification.

In mediating an unknown word she substituted words on the basis of initial letter cues, configuration and word endings. Her self-corrections on words in context indicated she attempted to make sense of what she read by using the context as an aid.

B. Comprehension

Comprehension appeared to be an area of strength for the subject considering her word identification difficulties, as she understood material read to her.

III. Correlates

The following tasks were administered to determine ability in areas directly related to reading.

A. Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: Below 10th percentile.

Detroit Aptitude-Test 13, Auditory Attention Span for Related Syllables

Score: 47/129 (Primary level).

These results indicate pronounced weakness in both visual and auditory memory.

B. Language Factors

Oral Expression

The subject was unable to produce more than one sentence when asked to retell a story that was read to her. The sentence she did produce gave an indication she comprehended the general idea of the passage. Low auditory memory ability was an influential factor here.

Summary

The subject read for meaning and comprehended material read to her up to the Grade 6 level, which indicated an area of strength.

Word recognition skills were at the primary level, along with spelling ability. Lack of symbol-sound association knowledge, poor visual discrimination caused by letter orientation confusion, and pronounced weakness in both visual and auditory memory all served to impede reading development.

Case Study No. 16

Personal History

Subject No. 16 was a middle-aged married woman who had been attending the course for six months. She hoped to improve her skills in English and Spelling in order to get into a tailoring course at NAIT. She recently applied there and was given a work sample to complete which she did quite efficiently. When she was refused admittance, she felt her lack of education must be holding her back.

Though she considered herself a "poor reader," she "reads anything I can get hold of—even if it's hard I try it." Her course work demanded a lot of time, so of late, she had not watched much television.

Subject No. 16 was born in Fort Vermilion, the oldest of 11 children. French was her first language, though she spoke some English before starting school. After leaving school in Grade 6 she went to work in a convent as she had to help her parents put the other children through school. She stayed at the convent for four years, working in the kitchen, hospital, and bakery and enjoyed her life there very much. She spent a year working in Peace River and then moved to Edmonton. She has worked all of her life, but recently became ill and had to leave her job as a janitress as the work was too demanding physically. She wants to learn to do something else, particularly in the line of sewing as she is very skillful at it.

She believed many of "these types" of courses should be available. She has very much enjoyed and benefitted from the Math and

English courses she has taken, but could not offer recommendations as to how to improve the courses.

Educational Background

Subject No. 16 attended Grades 1, 2 and 3 in a small school where the first four grades were taught by one teacher. She then stayed home and her mother worked with her occasionally on school material. She returned to school at age 12 at which time she was put into Grade 6. She only attended for three months, when she left to work at the convent. She recalled being taught sounds in reading and working in a group. However, her attendance was not good as she was sickly. She has always experienced difficulty with reading, and there was not much chance to read at home as there was so much work to do. Her parents were very interested in education and all the children finished Grade 12 except the three oldest sisters who had to help put the younger family members through school.

Reading Performance

I. Achievement

Slosson Oral Reading Test

Score: 31/200 Grade equivalent: 1.5.

ABLE, Level I, Form A

Test 1 - Vocabulary

Score: 33/50 Grade equivalent: 3.7.

Test 2 - Reading

Score: 44/51 Grade equivalent: 4.8*

Schonell Graded Word Spelling Test, Form A

Score: 16/100 Grade equivalent: 1.6.

Subject No. 16 had reading and spelling ability at the Grade 1 level. Vocabulary knowledge was two years higher. The ABLE—Reading test scores must be considered as listening comprehension, indicating present potential comprehension level if word identification difficulties were overcome.

II. Manner of Processing Print

The above tests were analyzed for error patterns, along with the following tests.

Oral Reading Paragraphs

Alta-Boyd Test of Phonic Skills

Huelsman Word Discrimination Test, Form B

Monroe-Diagnostic Reading Examination, Test 8.

A. Word Identification in Isolation and in Context

Subject No. 16 exhibited letter orientation and letter sequence confusion on tasks which evaluated the ability to visually discriminate words which matched either a visual or auditory stimulus. Since these skills are prerequisite to word identification, problems in these areas certainly affected her development. The subject had not mastered the symbol-sound associations usually taught in primary grades. Word recognition difficulties were so great, her substitutions did not fit the meaning of sentences as she could not read the required context surrounding the word.

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*As the subject was unable to read beyond the thirteenth item, the remaining test passages and choices were read to her.

B. Comprehension

The subject was able to comprehend material read to her up to the Grade 5 level. This could be interpreted as a strength compared to word identification ability.

III. Correlates

The following areas were investigated to determine factors which may be influencing reading development.

Memory

Monroe-Sherman Visual Aptitude Test—Letter Memory

Score: Below 10th percentile.

Detroit Aptitude—Test 13, Auditory Attention Span for Related Syllables

Score: 46/129 (Primary level).

These results indicate pronounced weakness in both visual and auditory memory.

Summary

Subject No. 16 could comprehend material read to her to near the Grade 5 level.

The subject had pronounced weaknesses in all areas related to reading, including word recognition, spelling, and auditory and visual memory.

Chapter 5

FINDINGS OF THE STUDY: THE ADULT GROUP

This chapter reports the findings of the study for the adults as a group as revealed from analyses of the group's performance on the four achievement tests and selected background factors. The sociological and educational characteristics of the group are presented first. This is followed by a comparative analysis of the group's performance on the four achievement tests. The final section compares selected background factors to the group's achievement scores on the ABLE—Reading test.

Sociological and Educational Characteristics

This first section reports the findings related to the sociological characteristics of the adults as a group; sex, marital status, native language and place of birth. As well, it presents data on the educational background of the adults, reviewing student goals, purposes for attending the English course, course satisfaction, employment history, educational history, reading methodology and job training. The section on related factors includes reading interests, reading materials, television viewing, school attendance and mobility.

Sex

Female	11
Male	5
Total	16

As these figures indicate, approximately two-thirds of the participants in this study were female. Of the three adults attending the course who did not participate, two of those were male. This male-female ratio varied from other studies examined. Firoza (1966), Osso (1973) and Stauffer (1974) all found almost equal male-female participation. Buttz' study (1968) consisted of 74 percent male students, while Flaherty's study (1970) sample was 62 percent female, a figure close to that reported here.

Marital Status

Married	8
Single	7
Separated	1

Six of the married women were returning to school now that their children were raised and they had time to devote to their own education. Six of the single people were in their late teens or early twenties and were seeking more education to improve their employment possibilities. It would seem likely that most ABE programs would contain members that fit that description.

Native Language

English	8
English as a Second Language (ESL)	6*
English dialect	2

This information was solicited since the ability to learn to read is based on oral language knowledge, particularly when one first learns to read. If English was learned as a second language, or was not the language spoken at home, it may be a factor to be considered when seeking to explain why one has experienced difficulty in reading. All of the ESL adults were raised in a home with a language other than English, though three were exposed to English in the community and among relatives at a very early age. These three spoke both languages fluently when they entered school in Canada.

Place of Birth

Canada	10
England	1
Holland	1
Ukraine	1
Surinam	1
Trinidad	1
Guyana (British Guiana)	1

These figures indicate that 37.5 percent of the participants had immigrated to Canada. Stauffer (1974) investigated place of birth in his study, and of the adults who answered his questionnaire, 38 percent were non-English speaking. It is relevant to note that the course from which the participants in this study were drawn did not accept non-English speaking adults, as there was another course available to them which better suited their needs.

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*Includes those students who were raised bilingual.

Purpose for Attending Course

Preparation course for Grade 12 matriculation program	7
Self-improvement, specifically in Spelling and/or Reading	4
General self-improvement without further education in mind	3
Improve writing skills	1
Improve oral language skills	1

Seven of the adults were attending the course as a preparation for admittance in the Grade 12 matriculation program. The remaining nine adults were hoping to improve either literacy skills in general, or a specific literacy skill for no purpose other than their own interest and satisfaction. Two students sought assistance in comprehension particularly. Other comments noted were: "[I want to] learn what I can and can't do" (#12), and, "I want to learn to read properly so I can enjoy it" (#14).

Course Was Meeting Needs

Satisfied	7
Not satisfied	6
No comment	3

Of those students not satisfied with the course, five felt the students varied too much in abilities leaving the teacher too little time for specific needs of individuals. Three of these people later stated that the programs should be more individualized.

Three subjects felt the course was suiting their needs adequately while four simply stated they were enjoying the class very much.

Three students stated they could not comment on the question.

Student Goals

Attend a trade school, e.g., NAIT	5
Acquire more education, improve skills	5
Obtain a 'good' job, a specific job	5
Become fluent in English	1

Ten people expressed goals that were related to employment, as the purpose for learning a trade was to eventually acquire a good job.

The other students were primarily concerned with self-improvement for their own enjoyment.

This data supported other studies (Flaherty, 1970; Firoza, 1966) which found either self-improvement or job-related ambitions to be the primary reasons adults returned for more education.

Employment History

In the listing below an * indicates present employment (N = 4). All other listings indicate past employment, as many of the adults were either between jobs or have returned for more education in order to improve future employment possibilities.

Service	6 (1*)
Sales	2
Clerical	2
Product repair	1*
Optic lens grinder	1*
Managerial	1*
Part-time	1
No job history	2

The largest number of participants held service jobs, such as a waitress, car wash attendant, nurses aide, janitress, dishwasher, and letter carrier. Two adults previously held jobs as retail clerks and two had worked as office clerks. Two other adults, each of whom were presently working, held jobs which made or repaired equipment. One adult had worked her way up to a supervisory position of a government office and was extremely anxious she might be 'discovered' to be a poor reader. The part-time job was held by a single male who was employed in his father's place of business. The two men with no job history were new to Canada, but had worked as occasional field hands in their native countries.

Grade Level Completed

Grade 12	2	
Grade 10	4	(One subject began in Grade 6)
Grade 9	3	(One subject attended only 5 years)
Grade 8	5	
Grade 3	1	
Special Class—Age 16	1	

These results are quite different from those found by Buttz (1968) and Flaherty (1970). The adults they investigated had less education on the whole. Of the 42 adults in Buttz' study, 14 had completed Grade 3 or less. Thirty-two of the 48 adults in Flaherty's study had completed Grade 3 or less, with the highest grade completed being Grade 10 (two adults).

It must be pointed out that the figures above indicate grade level completed and not number of years of schooling. This is pertinent as two of the adults attended school for only five years, yet one completed Grade 9 and the other Grade 10.

Reasons for Leaving School

Graduation	2
Did not wish to continue and/or parents did not object	5
Adequate for girls	2
Help support the family	2
Family problems	2
Disagreement with a teacher	1
Offered a good job	1
Only option was correspondence	1

The most common reason given for leaving school before graduation was that there was no desire to continue with school and parents did not object to the decision to quit early. The adults who had to leave to help support the family or because of family problems expressed regrets their education had to be terminated. This was true also of those women who had to leave school early because their education was considered sufficient for females, and whose parents expected them to begin supporting themselves. Of the two adults who did complete Grade 12, only one went straight through the grades. The other adult, having been failed twice in elementary school, was self-conscious of his age and quit in Grade 10. He later completed the required courses through correspondence school.

Reading Method Taught

Sight words	5
Phonic method (sounds)	3
"By letters" (#3)	1
No Response/could not remember	7

While most of the subjects were not familiar with terminology, they did indicate that they learned to read by "sounding out words" or else by "learning the whole word." The adult who indicated she learned "by letters" was quite adamant about that fact. Her five years of education were acquired in the Ukraine (one year), Poland (three years) and Alberta, Canada (one year). As well, the subject was taught by her mother in the primary years. Perhaps learning by letters was the method accepted and taught in those cultures. A surprising number of the adults could not say how they were taught to read.

Teacher-Pupil Ratio

One teacher per grade	11
One teacher for four grades	2
One teacher for three grades	1
One teacher for all grades	1

This information was solicited to provide an idea of what the elementary learning situation had been, and what influence it may have had on the subject's learning to read. One could presume that a teacher required to teach three or more grades would have less time to give individual help to students with problems, however competent that teacher may have been. Most of the subjects in this study did attend schools where there was one teacher for each class.

Other Training

None	8
Courses for interest	3
Business course	3
Trade course	1
Music school course (government sponsored)	1

Four of the adults had received training subsequent to their formal education which enabled them to obtain employment. These included business courses (typing, on-the-job training programs) and a trade course (hairdressing school). One man did attend a plant management course but realized that it was not a job for him, so never completed the program. Interest courses included taxidermy, and various English courses. The majority had neither sought nor received any subsequent training to their education.

Related Factors

A. Reading Interests and Habits

The questionnaire solicited information in areas related to reading interests and habits. The questions specifically investigated reading interests, types of reading materials and amount and type of television viewing. Those results are discussed briefly.

Reading Interests. Six of the 16 did no leisure reading at all and three others read only books needed in their courses. Six subjects indicated they read as often as they could. Three of these subjects noted preferences for specific authors or types of books (i.e., historical novels, geographical books, Reader's Digest Condensed Books). One adult stated that he read "if something interests me," and then added "if it wasn't too long."

Reading Materials. Those mentioned as being used most often included the Edmonton Journal (N = 11), Reader's Digest (N = 4), Time (N = 1), Macleans (N = 1), Chatelaine (N = 2), Ladies' Home Journal (N = 1), and National Geographic (N = 1). Four adults did not read anything on a regular basis.

Television Viewing. This did not appear to be a favorite pastime among the participants. Comments ranged from yes (N = 2), some (N = 4), irregularly or little (N = 3), to 'not much' or none (N = 5). The specific programs viewed included news, documentaries, specials, and films. Two people mentioned that television viewing helped to "improve their English."

B. Educational History

Factors related to educational history were also investigated. Specifically, the questions sought information on school attendance, mobility during school years, and the adult's educational status as he perceived it to be.

School Attendance. Seven adults stated they had good attendance records during their school years, while five had poor attendance. Three of the five had to help at home when necessary and very much regretted missing school. The remaining adults indicated their attendance was 'regular.'

Mobility. This seemed not to have been a problem for most of these adults, as 12 subjects indicated they received all their education at the same elementary and high school in which they started. Only two adults stated that mobility affected their education, since they attended many different schools while the family moved around.

Educational Status. Commenting on their educational status was difficult for some of the adults as they were viewing themselves retrospectively. However, five stated they were good students, and always enjoyed school very much. Four people repeated a grade (one repeated twice). Four others believed they were average students, and only one claimed to be a poor student. Two adults felt the question was not applicable in their case as one was in a special class, and the other was taught primarily by her mother.

Summary

This section discussed the findings regarding sociological and educational characteristics of the adult sample. The dominant characteristics among the adults in this study were that they were: female, equally divided between being married or single/separated, Canadian-born, English-speaking, attending the course as preparation for Grade 12 matriculation, and almost equally divided between being dissatisfied with the course and finding it useful or enjoyable. The goals of the adults were either to attend a trade school, obtain a good/better job, or acquire more education. The largest number of adults held service jobs, completed Grade 8, and left school because they did not want to continue and their parents did not object. Other than those who could not remember how they were taught to read, the largest number learned sight words and were taught by one teacher per class. Half of the adults in the study had received no other training since leaving school.

Analysis of Group Performance on Four Achievement Tests

Four achievement tests were given to each participant in the study in order that comparisons could be made. Those four tests were: Slosson Oral Reading Test (SORT), Adult Basic Learning Examination (ABLE)—Reading, ABLE—Vocabulary and Schonell Graded Word Spelling Test. The level of the ABLE test given (i.e., I, II or III) was based on the individual's performance on the SORT. (Each test was discussed in depth in Chapter 3.)

The first part of this section reports group performance on each of the four tests in turn. The second part presents the comparative analysis of the group's performance on the four achievement tests.

Table 1 presents the grade scores obtained by each subject on the four achievement tests used in the study. A cursory examination reveals that only two subjects (#4, #13) could be considered to have approximate ability in the four skill areas, as each of their four scores for the most part were within one and one-half grade scores. All of the other subjects' scores showed greater grade score differences, some up to five or six years (#3, #5, #14). An analysis of the group's performance on each of the four tests follows.

Table 1

Performance in Grade Scores for Adult Sample on
Four Achievement Tests by Subject
(as in Chapter 4)

			ABLE		Schonell Spelling
	SORT		Vocabulary	Reading	
Subject	Raw Score	Grade Score	Grade Scores		Grade Scores
1	197/200	9.85 (HS)	12.0	11.0	9.2
2	193/200	9.65 (HS)	10.0	11.0	8.7
3	173/200	8.6	10.0	12.0	5.9
4	172/200	8.6	9.0	9.0	8.0
5	186/200	9.3 (HS)	10.0	10.0	6.5
6	148/200	7.4	8.5	9.0	6.0
7	138/200	6.9	9.0+	7.0	5.8
8	198/200	9.9 (HS)	12.0	11.0	9.8
9	193/200	9.65 (HS)	6.9	7.8	9.2
10	162/200	8.1	4.8	7.0	5.7
11	146/200	7.3	4.4	7.0	5.0
12	184/200	9.2 (HS)	11.0	9.0	8.4
13	138/200	6.9	5.6	5.8	6.3
14	176/200	8.8	12.0	11.0	8.4
15	54/200	2.7	3.3	6.0*	1.3
16	31/200	1.5	3.7	4.8*	1.6

*These grade scores represent listening comprehension ability and not reading ability. The subjects were unable to read the test independently so the examiner read it to them (#15, not including choices; #16, including choices) and the subjects marked their answers.

Slosson Oral Reading Test

Scores	Number of Subjects (Total = 16)
Grade 1.0 - 3.9	2
Grade 4.0 - 6.9	2
Grade 7.0 - 8.9	6
Grade 9.0 - 10.0 (HS)	6

The SORT was normed in the United States where high school includes Grades 9-10, whereas in Canada Grade 9 is in the upper level of junior high. While the designation of Grade 9 scores to high school level may cause confusion to Canadian readers, the terminology established by the test developer will be maintained.

The purpose of the SORT is to evaluate sight word ability on words in isolation. An analysis of the group's performance indicated that two people had minimal sight word ability in that they have not acquired a word recognition vocabulary usually mastered in the primary grades. Two other people scored at the upper elementary level (6.9). These four people have not reached the functional literacy level of Grade 8 which would allow them to cope with Canadian society's demands. Six of the adults appeared to have sight ability at levels comparable to Grade 7 and 8 students. These adults could be considered to be minimally functionally literate, and could most likely cope with materials written at this level. There were six adults in the group who had sight word ability at levels which would enable them to read most material independently and are, for purposes of the study, functionally literate.

Error patterns on the SORT appeared to cluster at certain grade level achievement scores. For example, the adults who were at or above Grade 8 level exhibited primarily mispronunciation errors, usually due to syllabication or accentuation mistakes. Most adults achieving at Grade 6-8 levels were weak in syllabication, miscalled word endings frequently, and substituted similar words based on initial word part cues. The two adults at the primary level showed a lack of knowledge of symbol-sound associations, particularly with vowels, and substituted words frequently, on the basis of insufficient graphic cues which were usually the initial word parts.

Adult Basic Learning Examination—Vocabulary

Scores	Number of Subjects (Total = 16)
Grade 1.0 - 3.9	2
Grade 4.0 - 6.9	4
Grade 7.0 - 9.9	3
Grade 10 - 12	7

This test is a measure of auditory vocabulary, as the test is read in its entirety by the examiner.

The results indicated that two people had vocabulary ability comparable to primary school level, while four adults had scores at the upper elementary level. These six adults would most likely experience difficulty understanding many words used in conversation or in the media in Canada. The remaining 10 adults had varied levels of vocabulary knowledge, but all of them would most likely be able to cope with normal listening vocabulary demands made by society.

The Vocabulary test was designed such that the words increase in difficulty and the distractors represent common misconceptions about the word. In almost all cases the errors clustered on the second half of the test at each level, indicating vocabulary ability had peaked.

Adult Basic Learning Examination—Reading

Scores	Number of Subjects (Total = 14*)
Grade 1.0 - 3.9	0
Grade 4.0 - 6.9	1
Grade 7.0 - 9.9	7
Grade 10 - 12	6

The ability level of this group of adults was quite high compared to the adults in Flaherty's (1970) study who were also tested on the ABLE. Thirty of the 48 adults in her study scored Grade 3 or below on this ABLE subtest. The majority of adults (13 of 16) in the current study were reading at Grade 7 level or above. This would place those adults at or near functional literacy levels as defined by the C.A.A.E. which stated that "more than eight years of educational attainment is necessary for functional literacy in our technological society" (Thomas, 1976, p. 2).

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*Two subjects were unable to read the Level I test beyond the first few items. The examiner read the test to them, and they selected their answers. The scores may be interpreted as a measure of listening comprehension or of comprehension potential if all word recognition difficulties were alleviated. Therefore, their scores of 6.0 and 4.8 were not included above.

As noted in Chapter 3, the ABLE-Reading test, Levels I and II checks literal comprehension only. Therefore, few conclusions can be drawn from error patterns pertinent to comprehension at these two levels. However, suppositions may be made relative to the possibility of word recognition difficulties affecting performance, as well as the effect of poor vocabulary on the performances, and was discussed within the individual case studies.

On the Level III test, the items can be evaluated as to the comprehension strategy they are examining. As well, Part 2 of the test which is timed and has a memory component lends itself to providing comparative diagnostic data.

The adults who were tested on Level III (N = 8) exhibited problems with items requiring the reader to make inferences or generalizations. Most were able to perform well on the literal questions, but some experienced difficulty, most likely because of word recognition demands. Part 2 of the test caused problems for two people particularly. As the vocabulary load was not great, most likely the fact the information had to be read and retained in order to answer the questions was the reason for their trouble, as the time allowance seemed generous enough for most of the participants.

Schonell Graded Word Spelling Test, Form A

Scores	Number of Subjects (Total = 16)
Grade 1.0 - 3.9	2
Grade 4.0 - 6.9	7
Grade 7.0 - 8.9	4
Grade 9.0 - 10.0	3

The largest number of adults had spelling skills at the elementary level, with the second largest group achieving at the junior high level. Spelling scores were the lowest among the four achievement tests for the group. As most of the participating adults have had little need to use their spelling skills in everyday life, lack of practice in spelling skills compared with the more frequent use of other literacy skills may have been influential in the relatively low spelling achievement.

The 50 students in Flaherty's study (1970) who were given the complete *ABLE* battery had a mean score of 2.35 on the *Spelling* subtest. This was below the mean scores for *Reading* (3.61) and *Vocabulary* (3.79) indicating that spelling achievement was lowest for that group of adults as well.

Other than the two adults at the primary level who had not mastered sound-symbol relationships, all the adults exhibited errors indicating phonetic spelling. Substitution of similar sounding letters and omission of non-sounded letters were the predominant errors.

Comparative Analysis of the Group's Performance on the Four Achievement Tests

This section presents a comparative analysis of the group's performance on the four achievement tests. Table 2 contains the scores on the four tests ranked in descending order according to *ABLE-Reading* test scores. This table was developed for cross reference when viewing any subsequent tables. Tables 3 through 8 present the scores ranked in descending order according to performance on the

Table 2

Group Scores on Four Achievement Tests Ranked in Descending Order According to ABLE—Reading Test**

	ABLE		SORT		Schonell Graded Word
Subject	Reading	Vocabulary	Raw Score	Grade Score	Spelling Test
3	12.0	10.0	173/200	8.6	5.9
8	11.0	12.0	198/200	9.9	9.8
1	11.0	12.0	197/200	9.85	9.2
14	11.0	12.0	176/200	8.8	8.4
2	11.0	10.0	193/200	9.65	8.7
5	10.0	10.0	186/200	9.3	6.5
12	9.0	11.0	184/200	9.2	8.4
4	9.0	9.0	172/200	8.6	8.0
6	9.0	8.5	148/200	7.4	6.0
9	7.8	6.9	193/200	9.65	9.2
7	7.0	9.0+	138/200	6.9	5.8
10	7.0	4.8	162/200	8.1	5.7
11	7.0	4.4	146/200	7.3	5.0
13	5.8	5.6	138/200	6.9	6.3
15	6.0*	3.3	54/200	2.7	1.3
16	4.8*	3.7	31/200	1.5	1.6

*Refers to listening comprehension scores. See Table 1.

**When comparable scores were obtained on the ABLE-Reading test, the scores were ranked by ABLE-Vocabulary test scores, followed by SORT scores.

first test noted in the table title. In all tables, the subjects will be identified by their case study number, placed on the left of their achievement scores.

The results presented in Table 2 indicate that the best readers are not necessarily the best spellers nor the most proficient recognizing words in isolation. It appears that spelling achievement is generally the lowest score of the four tests. Performance on the SORT for the best readers (i.e., high scores on the ABLE) was relatively poor compared to junior high level readers' performance. For the most part, reading comprehension and vocabulary scores were within a year of each other. Further and more specific analyses of the scores follow.

As mentioned previously, the SORT high school scores include Grades 9 and 10. The ABLE differentiates each grade level up to Grade 12 which posed a problem when attempting a comparison of scores. Since achievement scores on any of the tests above Grade 9 level indicated, for the most part, the ability to be independent in that skill, the high school designation on the SORT will be considered equivalent to Grades 9 through 12 on the ABLE. This decision will hold for any subsequent comparisons made between performance on the SORT and the ABLE subtests.

As shown in Table 3, six adults had equivalent achievement scores on the SORT and ABLE—Vocabulary. Six others achieved higher on the Vocabulary test (from one to three grade levels) indicating that their auditory vocabulary was better than their sight word ability. Four subjects were weaker in auditory vocabulary than in

Table 3

Comparison of Group Performance by Grade Scores on SORT and ABLE—Vocabulary Test

Subject	SORT	ABLE-Vocabulary
8	198/200 (9.9—HS)	12.0
1	197/200 (9.85—HS)	12.0
2	193/200 (9.65—HS)	10.0
9	193/200 (9.65—HS)	6.9
5	186/200 (9.3—HS)	10.0
12	184/200 (9.2—HS)	11.0
14	176/200 (8.8)	12.0
3	173/200 (8.6)	10.0
4	172/200 (8.6)	9.0
10	162/200 (8.1)	4.8
6	148/200 (7.4)	8.5
11	146/200 (7.3)	4.4
7	138/200 (6.9)	9.0+
13	138/200 (6.9)	5.6
15	54/200 (2.7)	3.3
16	31/200 (1.5)	3.7

sight word knowledge, ranging from one to three grades difference. Three of these four subjects were new to Canada (#10, #11, #13) and while all of them spoke English fairly well they all had indicated in the interview that they had much more to learn before they became 'fluent,' which most likely pertained to vocabulary.

The data in Table 4 show that eight adults achieved equivalent scores on the two tests. Three subjects had higher scores on the ABLE—Reading (all at least two grades higher) suggesting that reading words in context aided their word recognition ability. Three subjects had lower scores on the ABLE—Reading subtest; two only lower by one grade level score. Two of the adults were unable to read the test independently, so their scores were not included in this analysis.

There was one adult who had a higher spelling score than SORT score (#16) (see Table 5). Three adults were equivalent on the two tests (#1, #8, #9). Twelve of the subjects had lower spelling achievement scores, which ranged from one to two and one-half grade levels difference.

The following discussion of the data presented in Table 6 includes only fourteen subjects (see SORT and ABLE—Reading).

Four adults were equal in achievement on the two tests. Five adults had higher reading scores than vocabulary scores, three of whom had scores which differed by two years or more (#3, #10, #11). Two of these latter adults were ESL subjects and one spoke an English dialect which may explain the difficulty experienced on the vocabulary test. It may be the case that adults with such a language factor (i.e., bilingual, ESL, dialect) perform better on tests which

Table 4

Comparison of Group Performance by Grade Scores on SORT and ABLE—Reading Test

Subject	SORT	ABLE—Reading
8	198/200 (9.9—HS)	11.0
1	197/200 (9.85—HS)	11.0
2	193/200 (9.65—HS)	11.0
9	193/200 (9.65—HS)	7.8
5	186/200 (9.3—HS)	10.0
12	184/200 (9.2—HS)	9.0
14	176/200 (8.8)	11.0
3	173/200 (8.6)	12.0
4	172/200 (8.6)	9.0
10	162/200 (8.1)	7.0
6	148/200 (7.4)	9.0
11	146/200 (7.3)	7.0
7	138/200 (6.9)	7.0
13	138/200 (6.9)	5.8
15	54/200 (2.7)	6.0*
16	31/200 (1.5)	4.8*

Table 5

Comparison of Group Performance by Grade Scores on SORT and Schonell Graded Word Spelling Test

Subject	SORT	Schonell
8	198/200 (9.9—HS)	9.8
1	197/200 (9.85—HS)	9.2
2	193/200 (9.65—HS)	8.7
9	193/200 (9.65—HS)	9.2
5	186/200 (9.3—HS)	6.5
12	184/200 (9.2—HS)	8.4
14	176/200 (8.8)	8.4
3	173/200 (8.6)	5.9
4	172/200 (8.6)	8.0
10	162/200 (8.1)	5.7
6	148/200 (7.4)	6.0
11	146/200 (7.3)	5.0
7	138/200 (6.9)	5.8
13	138/200 (6.9)	6.3
15	54/200 (2.7)	1.3
16	31/200 (1.5)	1.6

Table 6

Comparison of Group Performance by Grade Scores on ABLE—Vocabulary Test and ABLE—Reading Test

Subject	ABLE—Vocabulary Test	ABLE—Reading Test
1	12.0	11.0
8	12.0	11.0
14	12.0	11.0
12	11.0	9.0
3	10.0	12.0
2	10.0	11.0
5	10.0	10.0
7	9.0+	7.0
4	9.0	9.0
6	8.5	9.0
9	6.9	7.8
13	5.6	5.8
10	4.8	7.0
11	4.4	7.0
16	3.7	4.8*
15	3.3	6.0*

require general comprehension rather than on those tests which solicit specific meanings of words.

Five adults had lower reading scores, two differing by two years (#7, #12). Interestingly, these two women performed best on the vocabulary test, indicating it is an area of strength and that when word recognition difficulties are overcome, comprehension of more difficult levels of materials should be possible.

The score comparison in Table 7 shows that twelve adults had lower scores (from one to five grades lower) on the spelling test than on the vocabulary test, which is consistent with the comparison between the SORT and Schonell, though the differences on the latter were not as great. Four adults had higher spelling scores (#9, #10, #11, #13) indicating they have mastered sound-symbol relationships to a greater extent than vocabulary. Again the language factor may be influential as one of the four is an ESL adult, and two speak an English dialect. The fourth adult (#9) has high word recognition and spelling ability compared to his vocabulary and reading ability, which require comprehension.

The comparison in Table 8 indicates two adults were equivalent in achievement and two had higher spelling scores (#9, #13). The latter two were consistent in scoring better on tests which did not require comprehension ability. The remaining 10 adults had lower spelling scores which again is consistent with other comparisons using the Schonell Graded Word Spelling Test. Some of the scores showed three to four years difference (#3, #5, #6, #14).

Table 7

Comparison of Group Performance by Grade Scores on ABLE—Vocabulary and Schonell Graded Word Spelling Test

Subject	ABLE—Vocabulary Test	Schonell
8	12.0	9.8
1	12.0	9.2
14	12.0	8.4
12	11.0	8.4
2	10.0	8.7
5	10.0	6.5
3	10.0	5.9
4	9.0	8.0
7	9.0	5.8
6	8.5	6.0
9	6.9	9.2
13	5.6	6.3
10	4.8	5.7
11	4.4	5.0
16	3.7	1.6
15	3.3	1.3

Table 8

Comparison of Group Performance by Grade Scores on ABLE—Reading Test and Schonell Graded Word Spelling Test

Subject	ABLE—Reading Test	Schonell
3	12.0	5.9
8	11.0	9.8
2	11.0	8.7
1	11.0	9.2
14	11.0	8.4
5	10.0	6.5
12	9.0	8.4
4	9.0	8.0
6	9.0	6.0
9	7.8	9.2
7	7.0	5.8
10	7.0	5.7
11	7.0	5.0
15	6.0*	1.3
13	5.8	6.3
16	4.8*	1.6

Summary

This section presented the findings on the adult sample's performance as a group on the four achievement tests utilized in the study. The largest number of adults achieving at high school level was found on the SORT (N = 9), followed by ABLE—Vocabulary (N = 7), ABLE—Reading (N = 6), and Schonell (N = 1). However, the SORT scores include Grade 9, while the other test results included only Grades 10 to 12 in the high school designation, in keeping with Canadian standards. There were only three adults who showed almost equivalent achievement in all four areas examined, and their scores differed up to one and one-half grade levels.

An analysis was completed on the group's performance on each of the four tests. Some general statements may be made regarding the majority's performance. The comparison of the SORT and ABLE—Vocabulary showed an equal division between those that had equivalent scores (N = 6) and those who had higher vocabulary scores. On the SORT and ABLE—Reading comparison, eight of 14 achieved equivalent scores. In comparing the ABLE—Vocabulary and ABLE—Reading scores, five of the 14 had higher reading scores, and five others had lower reading scores. All three comparisons with the Schonell showed that the majority of adults had lower spelling scores, indicating that for the group, spelling showed the lowest average level of achievement.

Relationship between Selected Background Factors and Performance on the Adult Basic Learning Examination—Reading Subtest

The ABLE—Reading test was chosen as the comparative base for this section because it is a silent reading test. It requires the reader to both recognize words presented in context and understand the meaning of the passages. As it evaluates ability similar to what is expected of the reader in most reading situations, achievement on the test could be considered to approximate their performance in daily reading activities.

This section presents comparison tables for the purpose of investigating whether there are relationships between any of the selected background factors and present reading achievement.

The data in Table 9 reveal that of the seven married females, four were achieving at Grade 10 or above, two were at Grade 7 level, and one received a score of 4.8 on the ABLE in listening comprehension. Of the four single or separated females, three achieved at Grade 9 or above and one scored Grade 6.0 on the ABLE in listening comprehension. The one married man scored Grade 11 on the ABLE, while the four single men scored from Grade 9 to Grade 5.8. As a group it appears the women scored higher than the men, and more specifically, the married women were higher than the single/separated women. The married man was higher in achievement than any of the four single men, and equal to or above the single/separated women.

There does not appear to be a direct relationship between the factors of birth place and native language and performance on the ABLE—Reading (see Table 10). The five highest scores on the ABLE

Table 9

Sex and Marital Status in Relation to
ABLE—Reading Test Scores

Subject	Sex	Marital Status	ABLE—Reading
3	F	Married	Grade 12.0
1	F	Married	11.0
2	F	Married	11.0
8	F	Single	11.0
5	F	Married	10.0
6	F	Single	9.0
12	F	Separated	9.0
7	F	Married	7.0
10	F	Married	7.0
15	F	Single	6.0*
16	F	Married	4.8*
14	M	Married	11.0
4	M	Single	9.0
9	M	Single	7.8
11	M	Single	7.0
13	M	Single	5.8

Table 10

Place of Birth and Native Language in Relation to *ABLE—Reading* Test Scores

Subject	Birthplace		ABLE—Reading
8	Canada	English	Grade 11.0
14	Canada	English	11.0
5	Canada	German/English	10.0
4	Canada	English	9.0
6	Canada	English	9.0
12	Canada	"Parents' language"/English	9.0
9	Canada	English	7.8
7	Canada	English	7.0
15	Canada	English	6.0*
16	Canada	French/English	4.8*
3	Ukraine	German	12.0
2	Holland	Dutch	11.0
1	England	English	11.0
10	Surinam	Dutch	7.0
11	Trinidad	English dialect	7.0
13	Guyana (British Guiana)	English dialect	5.8

were achieved by three native English-speaking adults and two people with English as a second language. As well, the three lowest scores achieved were split among two English-speaking adults (one with dialect) and one bilingual adult.

The seven adults attending the course as preparation for other required courses needed for Grade 12 matriculation varied in achievement scores from Grade 5.8 to Grade 11 (see Table 11). It would seem that those performing at less than Grade 10 would most likely need to attend the 'preparation' course again or at least until achievement had improved. The three adults attending the course for self-improvement were all achieving at upper high school level. These three were women who had worked much of their lives but were now at home and interested in doing things they never had time for before. The four adults specifically concerned with improving spelling and reading skills included the two adults who were unable to read Level I of the ABLE independently, one adult at Grade 7 level, and one person achieving at Grade 11 but found reading difficult and wanted to "learn to read properly" (#14). Two other adults wanted to improve either oral language skills (Grade 7) or writing skills (Grade 12).

It seems that most of the adults have an understanding of what their areas of weakness are and are seeking to improve. However, some seem to underestimate their abilities (e.g., #1, #2, #8) while others may be overestimating their skill to a degree (e.g., #9, #11, #13).

The subjects who expressed satisfaction with the course

Table 11

Purpose for Attending Course in Relation to ABLE—Reading Scores

Subject	Purpose for Attending	ABLE—Reading
2	Preparation course	Grade 11.0
4	Preparation course	9.0
6	Preparation course	9.0
12	Preparation course	9.0
9	Preparation course	7.8
11	Preparation course	7.0
13	Preparation course	5.8
1	General self-improvement	11.0
8	General self-improvement	11.0
5	General self-improvement	10.0
14	Learn to read properly	11.0
7	Improve reading and spelling	7.0
15	Learn to read	6.0*
16	Learn to read and spell	4.8*
3	Improve writing skills	12.0
10	Improve oral language skills	7.0

had the lowest average achievement scores, while those who were not satisfied with the course had the highest average scores (see Table 12). This might indicate that the course was meeting the needs of those who required more assistance. However, such an analysis does not necessarily apply to each individual. Of those who found the course satisfactory, four noted they 'enjoyed' the classes. Those who were dissatisfied were more specific in their comments (see page 160).

The data in Table 13 are consistent for the most part with other studies that found people with limited reading skills employed primarily in service occupations. The two possible exceptions (#7, #10) were, in fact, somewhat unique. The supervisory position was held in a government office where almost all the data are presented in symbols causing no problems. However, the woman indicated she had a lot of difficulty with letters or government documents which came to the office. She mentioned she often had to read them three or four times before they made any sense at all. Also, she was desperate to get help for her reading and spelling difficulties before her colleagues found out about her disability.

The optic lens grinder considered herself less a craftsman than an assembly-line operative as the art of lens grinding is now highly mechanized. She learned the trade recently in Canada and her job required no reading.

The five highest scores on the ABLE were achieved by two retail clerks, a waitress, an office clerk, and a letter carrier. The three lowest scorers had worked as a dishwasher, janitress, and factory

Table 12

Satisfaction with the Course in Relation to *ABLE—Reading* Scores

Subject	Satisfaction	ABLE—Reading
14	Yes	Grade 11.0
4	Yes	9.0
12	Yes	9.0
10	Yes	7.0
11	Yes	7.0
13	Yes	5.8
16	Yes	4.8*
3	No	12.0
1	No	11.0
8	No	11.0
6	No	9.0
9	No	7.8
15	No	6.0*
2	No comment	11.0
5	No comment	10.0
7	No comment	7.0

Table 13

Employment History in Relation to ABLE—Reading Scores

Subject		Employment	ABLE—Reading
3	Service	Waitress	Grade 12.0
14		Letter carrier	11.0
5		Nurse's aide	10.0
6		Car wash attendant	9.0
15		Dishwasher	6.0*
16		Janitress	4.8*
1	Sales	Retail clerk	11.0
2		Retail clerk	11.0
8	Clerical	Office clerk	11.0
12		Office clerk	9.0
10	Production & Repair	Optic lens grinder	7.0
13		Factory worker (product repair)	5.8
7	Managerial	Supervisor	7.0
9	Part-time	Part-time janitor	7.8
4		No employment history	9.0
11		No employment history	7.0

worker.

It was difficult to evaluate the degree to which the individual's life experience had influenced achievement, since there seemed to be no clear cut delineation of high scores with relation to jobs.

Three adults achieved higher scores on the ABLE—Reading test than their grade level expected score (see Table 14). This would indicate that they have mastered reading to the extent that they can progress on their own, and indeed have progressed. One adult achieved at the level equal to his expected score. Ten adults had lower scores on the ABLE—Reading than their completed grade level expected scores. Of these 10, five decreased only one grade level, three dropped two grade levels, while two other adults lost four grade levels. Subjects #15 and #16 were unable to read the ABLE independently. The examiner read the test to them and they indicated their choice. Results obtained in this manner can be evaluated only as estimates of listening comprehension, not reading comprehension. However, in both cases, they were below expected grade score levels in reading.

These data substantiate the opinions expressed in the literature which question the validity of using grade level completion for level of functioning (Thomas, 1976; Harmon, 1970; Otto and Ford, 1967; Summers, 1968).

The data in Table 15 indicate the five highest ABLE scores were obtained by subjects who had graduated or were forced to quit school because of parental pressure or family problems (#2, #14, #3, #1, #8). The two lowest scores were obtained by a woman who had a few

Table 14

Grade Level Completed and Expected Score*
in Relation to ABLE—Reading Scores

Subject	Grade Level Completed	Expected Score	ABLE—Reading
2	12	12+	11.0
14	12	12+	11.0
1	10	11.0	11.0
4	10	11.0	9.0
7	10	11.0	7.0
10	10	11.0	7.0
3	9	10.0	12.0
6	9	10.0	9.0
12	9	10.0	9.0
8	8	9.0	11.0
5	8	9.0	10.0
9	8	9.0	7.8
11	8	9.0	7.0
13	Third Form (Grade 7)	8.0	5.8
16	3	4.0	4.8*
15	Age 16	--	6.0*

*Expected score refers to the level of achievement expected at the completion of a grade level. For example, when completing Grade 8, one's achievement level should be Grade 9.0 or at the beginning of Grade 9 ability levels.

Table 15

Reason for Leaving School in Relation to ABLE—Reading Scores

Subject	Reason for Leaving School	ABLE—Reading
2	Graduation	Grade 11.0
14	Graduation	11.0
6	Did not wish to continue	9.0
9	Did not wish to continue	7.8
10	Did not wish to continue	7.0
11	Did not wish to continue	7.0
13	Did not wish to continue	5.8
3	Adequate for girls	12.0
1	Adequate for girls	11.0
12	Help support the family	9.0
16	Help support the family	4.8*
8	Family problems	11.0
15	Family problems	6.0*
4	Disagreement with a teacher	9.0
7	Offered a good job	7.0
5	Only option was correspondence	10.0

years of primary education and was then required to help support the family, and a woman whose first years of education were a blank in her memory. She eventually left school (at age 16) because of a poor family situation.

All of the subjects who quit school early and were free to make the decision themselves had performance scores which ranged from Grade 5.8 to 9.0 indicating that most had mastered basic literacy skills comparable to a junior high student.

Summary

This section presented the findings of the comparison between selected background factors and performance on the ABLE—Reading subtest. The highest scores were obtained by married women as a group, and by those who were attending the course for self-improvement. This study found that the adults with limited reading skills held service jobs primarily, which is consistent with most other studies examined. Three adults were achieving at higher levels than their completed grade levels, and ten were achieving at lower levels than expected. (Two subjects were not included in the final comparison.) The highest scores on the ABLE were achieved by the subjects who had graduated or were forced to discontinue their education due to parental pressure or family problems.

Chapter 6

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

Summary

The purpose of this study was to describe both the individual and group characteristics of adults attending a course for the improvement of their literacy skills. In order to obtain the information requisite to such a description, an individual interview and diagnostic reading evaluation was completed with each of the sixteen volunteer subjects. The interview questionnaire developed for the study solicited information on the personal and educational background of the individual as well as their reading interests, concerns, and goals. The reading diagnosis examined achievement, reading process, and correlates, using tests and tasks designed for that purpose.

The data were treated in two ways. Firstly, the information was compiled into sixteen individual case studies which presented in summary form the sociological and educational backgrounds of each subject. The results of the reading diagnosis were also included in the individual's case study. Secondly, the data were analyzed for the adult sample as a group in order to explore the questions posed in the study. Those questions are stated together with the related findings in the following section.

Findings

Question 1

What are the selected sociological characteristics of adults seeking assistance in a course designed to improve literacy skills?

Two-thirds of the 16 adults were female, and one-half of the group were married. The five men ranged in age from 19 to 32, whereas the females were predominantly middle-aged women in their forties or early fifties. Three women were in their late teens or early twenties. While all of the subjects in the study were English-speaking adults, six learned English as a second language or were bilingual, two spoke an English dialect common to the West Indies, and the remaining eight were solely English-speakers. Ten of the adults were born in Canada, while the remaining six adults came from one of the following countries: England, Holland, Ukraine, Surinam, Trinidad, and Guyana.

The employment histories of the adults indicated that the largest number had held service jobs (N = 6), followed by sales (N = 2), clerical (N = 2), product manufacture or repair (N = 2), managerial (N = 1), while two others had no job history and one was a part-time worker. Only four of the adults were presently employed full time.

Question 2

What are the expressed concerns and goals of adults in such a group?

The majority of adults were attending the course as a preparation for other courses required for matriculation. Four others wanted to improve reading and/or spelling skills, and one each wanted to improve their writing or oral language skills. Three adults were interested in the course for general self-improvement. The subjects were almost evenly divided in their opinions as to whether the course was meeting their needs.

The educational goals expressed by the subjects were as follows: five hoped to eventually attend trade school, five hoped to obtain a good job, five wanted to acquire more education and improve their literacy skills, and one hoped the course would improve her English fluency.

Question 3

> What are the educational and experiential factors which may have affected development of their reading ability?

Grade level completion was high among the adult sample in the study compared to other studies investigated. Two adults completed Grade 12, four completed Grade 10, three finished Grade 9, five completed Grade 8, one finished only Grade 3, while the remaining adult attended special classes until she reached age 16.

The reasons given for leaving school included: didn't wish to continue and parents didn't object (N = 5), level attained was considered adequate for girls (N = 2), needed at home or to help support the family (N = 4), graduation (N = 2), disagreement with a teacher, offered a good job, and only correspondence school available (N = 1 each).

Seven adults could not remember how they were taught to read. Five learned sight words only, while three learned phonics. The majority (N = 11) attended schools where there was one teacher per grade available.

Half of the adults received no other training after leaving school. Three completed business courses, and three others had taken courses for interest. One adult completed a trade course (hairdressing) while another had been sponsored by the government in Trinidad while taking music courses.

Six adults enjoyed reading and read as often as possible, while nine indicated they did no leisure reading or read only books required by the courses they were taking. The majority of adults read the daily newspaper (N = 11). Television was not a favorite pastime of the participants.

Their school attendance was considered regular or good by 11 of the subjects, and only two adults indicated that family mobility affected their education. Nine adults believed they were considered good or average students. Four of the adults had to repeat at least one grade.

Question 4

> What are the functional reading levels of the adults in the study?

Based on the group's performance on the Adult Basic Learning Examination, Form A, the following findings are reported. Six adults achieved at the high school level (Grades 10-12). Seven subjects attained scores at junior high level (Grades 7.0-9.9), while one subject was achieving at the elementary level (Grades 4.0-6.9). Two subjects were unable to read Level I of the ABLE independently which indicates they were at the beginning of primary level (Grades 1.0-3.9).

Achievement levels on the Slosson Oral Reading Test (SORT), which evaluates recognition of words in isolation, were comparable, except for one score which dropped from junior high to elementary level.

Question 5

> What strengths and weaknesses are exhibited by the adults when confronted with reading related tasks?

The study was designed so the above question could be answered more thoroughly within each case study. However, some general statements can be made regarding the characteristic strengths and weaknesses exhibited by certain groups within the larger group.

The six adults who were achieving at the high school level on the ABLE—Reading test were somewhat lower in their ability to recognize words in isolation. This discrepancy might indicate that they were able to use the context as an aid in word identification, as well as being a result of the fact that contextual reading is a more meaningful and familiar task for them, as their errors on the SORT were primarily mispronunciations. Within this group, those who were native English-speaking adults had higher vocabulary scores than reading scores, while those who were bilingual or ESL adults had lower vocabulary scores. All but one of the adults had lower spelling scores, which ranged from two to six years lower, and all spelled phonetically. For most of the six, the questions on the

ABLE—Reading which caused difficulty were those requiring the ability to make inferences and make generalizations. Most of the adults within this group did well on both the oral and written expression tasks, though two subjects had notable difficulty when asked to retell a story which had been read to them. The three adults who were tested for visual memory because of spelling difficulty all exhibited very low ability.

Of the seven adults who were achieving at junior high level on the ABLE—Reading test, only one had a lower score on the SORT. The others all performed equally well or better on words in isolation, which displays a difference from the previous group. Errors on the SORT included some mispronunciations, but the majority were substitutions caused by inattention to word endings or syllabication difficulties. The adults who were given Level III of the ABLE—Reading test had problems with inferences and generalizations, while those given the Level II test showed literal comprehension inadequacies. However, the comprehension performances of these adults were most likely affected by word identification difficulties. Vocabulary ability was comparable to reading ability in five subjects. One adult showed vocabulary ability two grades higher than reading ability, while two adults were two to three grade levels lower in vocabulary (one was an ESL adult, one spoke an English dialect). Spelling ability was lower than reading ability for six of the seven adults, all of whom exhibited phonetic spelling errors. Six of the adults in this group of seven experienced problems with the oral expression tasks, particularly when asked to retell a story that was read by the examiner, indicating poor auditory memory. Two of the adults were unable to perform on either of the oral expression tasks. They seemed unable to recall anything of what they heard or read silently. Written expression seemed adequate or good for the majority in this group. Five of the six adults tested for visual memory ability were at the 10-15th percentile. Five of the six adults who were given an auditory memory test had ability comparable to an elementary student.

The one adult who was achieving at the elementary level on the ABLE showed exactly the same patterns as the majority of the group just discussed.

The two adults who were unable to read the ABLE—Reading test independently had poor word attack skills in that they had not mastered basic symbol-sound associations, particularly of vowels, and substituted words on the basis of initial consonant clues. Spelling ability was at the Grade 1 level, while vocabulary was at the Grade 3 level. Both adults were unable to do either of the oral expression tasks, both had visual memory ability below the 10th percentile, and both had very low auditory memory. However, when the ABLE—Reading test was read to them, they did comprehend the passages and select appropriate choices.

Question 6

> What program objectives are suggested by the case studies and group analyses that would best meet the educational needs of adults interested in improving their literacy skills?

As stated in the previous question's discussion, the adults clustered into three main groups. Therefore, when discussing program objectives, those same groups will be the focus.

The first group needs instruction primarily in high level comprehension strategies such as making inferences, making generalizations, drawing conclusions, and other critical reading skills. Vocabulary and word identification abilities should be developed to further comprehension growth. As improvement in spelling is required, instruction which provides for learning spelling generalizations allowing for the greatest applicability would be suitable. Some of the adults may need to learn techniques which would enable them to better remember the visual image of the word. Certainly, application of the spelling generalizations taught should be ensured by developing functional and creative written expression. These adults could benefit from group instruction for the most part.

The second group requires instruction on syllabication of multi-syllable words (including accent placement), and on recognizing the importance of word endings as meaning bearing units. Vocabulary development should be included in their program, as well as instruction on obtaining meaning from context. Comprehension should be improved at the literal level, and solid instruction be provided for reading at the inferential and critical levels. Spelling instruction which focuses on generalizations and morphemes would be suggested. As many of the adults in this group appeared to have low visual and/or auditory memory ability, techniques which develop these areas should be utilized. The adults in this group would need an individualized instructional program for spelling and word recognition skill development, but could benefit from group instruction for vocabulary and comprehension improvement.

The third group needs instruction on symbol-sound association of short vowels in one syllable words with application to spelling. Context use should be incorporated in their program. Certainly, comprehension must be an integral part of the instruction, along with sight vocabulary development. Since auditory and visual memory were problem areas, an instructional approach which includes kinesthetic and tactile techniques would be suitable. These adults require an individualized instructional program in order to develop the necessary skills.

Conclusions

1. The adults in the study were a heterogeneous group in relation to their diverse backgrounds as well as their literacy abilities, which ranged in the group from primary to senior high level. Such a group suggests a diagnostic-prescriptive approach in developing instructional programs.

2. The interview questionnaire was found to be an acceptable instrument to obtain the personal data required for the study.

3. The untimed tests used within the study were suitable instruments to evaluate literacy ability in English-speaking adults. Though many diagnostic tests were used in the study, such in-depth analysis of reading difficulties should be limited to only the more disabled readers. For screening purposes, the following tests were found most useful: SORT, Schonell Graded Word Spelling Test, ABLE—Vocabulary, Gray Oral Reading Paragraphs. A silent reading

test should be included in this battery. The ABLE—Reading test was unsatisfactory in several aspects. The Level I and II tests, though full of adult content, were not representative of normal reading demands in that the passages were only one or two sentences long. Also, the items were limited to literal interpretation. The Level III test was found very acceptable with the exception of two passages that were written with American content, one of which required an understanding of the United States Federal election system. Canadian readers, for the most part, would not have the background experience to bring to the passage.

The Oral Reading Paragraphs (other than the Gray) were found unacceptable, particularly at the primary level. The adults had a very difficult time reading them, and when a change to the Gray Oral Reading Test was made, they were more successful. The disadvantage of using the 'child-oriented' primary Gray Paragraphs was not found to be a problem.

4. The literacy ability of the adults in the study was not found commensurate with grade level completion. Therefore, the use of such information, as collected in census statistics, must be evaluated with care.

5. Spelling achievement for the adults as a group was the lowest of all the scores. As most of the adults did not use their spelling skills regularly, the lack of practice may have been a factor.

Implications

From the findings of the study and the conclusions drawn, the following implications are offered for instructing adults similar to those of the study sample:

1. A diagnostic-prescriptive approach in programs designed to meet the needs of adults seeking literacy improvement would be most beneficial. The instructional program should be individualized if possible. At the very least, the adults should be grouped so that those with similar abilities and needs are provided with instruction that meets their needs.

2. An awareness of the student's reading interests, goals, and concerns by the instructor seems mandatory. An interview or personal discussion which solicited such information would be suggested. Since an adult's time is valuable, it seems likely that he would continue to attend an instructional program regularly only if it met his needs.

3. Realistic expectations on the part of the adult student should be established through discussion with the course instructor.

4. The instructor of a course designed to improve literacy skills in adults should have expertise in reading diagnosis, developmental reading growth, and remedial teaching techniques and appropriate materials. He must also have the ability to develop rapport with adults on both a personal and professional level.

5. The ideal program would provide for flexible scheduling of the adult's attendance, with no loss of continuity if the student missed sessions. This points to individualized programs for the

students. Availability of materials and assistance other than during established class time would be useful. A reading lab which was open at regular convenient hours with assistants available for consultation might prove beneficial. Regularly scheduled group instruction could be provided, yet access to practice materials would be possible at other times.

6. Programs designed to improve literacy skills in adults are required in Edmonton, and other metropolitan areas in Canada. They must be made available soon, and they must be developed so that they ensure maximum benefit for the participants.

Suggestions for Further Research

The findings of this study which suggest that there are adults in Edmonton interested in improving their literacy skills who require an individualized or selectively grouped instructional program would seem to warrant further explorations. A replicate study of other adults seeking literacy improvement could broaden the present knowledge base for a description of Canadian adults seeking upgrading. A study which evaluated two or three adults with poor reading skills at the beginning of an instructional program and at the end might serve to suggest remediation possibilities. There remains a need in Canada for studies which investigate the educational needs of adults in a community, particularly with respect to functional reading ability.

Concluding Statement

The adults described in the study were a heterogeneous group in terms of reading ability, reading interests and goals, as well as in respective life experiences. As such, a diagnostic-prescriptive instructional program would best meet their needs, augmented by an interview conducted with each student to ensure the instructor's awareness of the adult's interests, goals, and concerns. The instructor of such a group of adult learners should be knowledgeable in reading diagnosis, developmental reading sequence, and remedial teaching techniques and materials. The need for well-designed instructional programs for adults such as these seeking improvement of literacy skills in Edmonton is manifest.

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APPENDICES

APPENDIX A

INTERVIEW QUESTIONNAIRE

INTERVIEW QUESTIONNAIRE

1. How long have you been attending the English class?
2. Why did you enroll in the class?
3. What exactly are you interested in learning?

   And for what purpose do you wish to learn these things?
4. Can you explain what you expect the course you're taking to do for you?

   Is the course meeting your needs?

   How do you plan to use reading in the future?
5. What reading materials do you use most of the time?

Newspapers	Sections?
Magazines	Titles?
Books	
Materials that relate to your work	Describe.

6. Are you able to find time to read each day? About how much time?
7. In what other ways do you spend free time?
8. What types of T.V. programs do you like to watch?

   How much time do you spend watching T.V.?

   Do you listen to the news?
9. Do you speak or read any language other than English?

   Did you learn the language as a child?

   Spoken at home, school, community?
10. What was the last grade you finished in school?
11. Did you ever repeat any grades? Why?
12. What were your reasons for leaving school?
13. What type of elementary school did you attend?

14. Do you remember how you were taught to read at school? (How words were learned.)
15. Do you remember any of the books you used?
16. How would you describe the teachers you've had?
17. Was all your elementary schooling at one school?
If not, were there any differences you noticed between these schools?
18. What type of high school did you attend?
19. Did you have any reading course in high school?
20. When did you move to Edmonton?
21. Have you lived here since then?
22. Were you able to attend school regularly in the elementary grades?
About how much time did you miss?
23. Was your health good as a child?
24. Have you ever had vision or hearing difficulties?
25. Do you think your parents pushed you in your education?
26. Did you like school?
27. What did you particularly like or dislike?
28. Did you read much outside of school?
29. Where did you get most of the materials you read as a child?
30. When did you first experience difficulty with reading?
31. What, in your opinion, were the reasons or causes of your difficulty?
32. Have you ever received extra help or were your difficulties noted in any way?
33. Do you recall someone who influenced your attitude towards reading in any way?

34. How long have you been out of school?

35. Have you had any kind of training or gone to any kind of school since then?

36. What kind of school/training was it?

37. When did you attend? For how long?

38. Where was the school located?

39. What was the purpose of this training?

40. What do you do for a living?

41. What actually is your job?

42. Does your job require any reading? Could you explain?

43. Is your work presently satisfying or are you interested in changing?

44. Have you always had the same type of job?

45. IF UNEMPLOYED

What kind of job did you formerly have?

Are you interested in the same type of employment?

46. Is your present interest in reading related to your job situation?

47. Do you think your reading affects your getting a job? In what way?

48. Are you married?

Are you supporting a family? How many children?

49. Would you say your salary is sufficient?

50. In your opinion, is there a need for additional reading courses for adults?

Describe a program or course you would find most useful.

APPENDIX B

SELECTED ACHIEVEMENT TESTS

SLOSSON ORAL READING TEST

Directions: The subject is asked to read the words until he errs on 20 words in a list.

1. see
2. look
3. mother
4. little
5. here
6. can
7. want
8. come
9. one
10. baby
11. three
12. run
13. jump
14. down
15. is
16. up
17. make
18. ball
19. help
20. play

1. with
2. friends
3. came
4. horse
5. ride
6. under
7. was
8. what
9. bump
10. live
11. very
12. puppy
13. dark
14. first
15. wish
16. basket
17. food
18. road
19. hill
20. along

1. game
2. hide
3. grass
4. across
5. around
6. breakfast
7. field
8. large
9. better
10. suddenly
11. happen
12. farmer
13. river
14. lunch
15. sheep
16. hope
17. forest
18. stars
19. heavy
20. station

1. safe
2. against
3. smash
4. reward
5. evening
6. stream
7. empty
8. stone
9. grove
10. desire
11. ocean
12. bench
13. damp
14. timid
15. perform
16. destroy
17. delicious
18. hunger
19. excuse
20. understand

1. harness
2. price
3. flakes
4. silence
5. develop
6. promptly
7. serious
8. courage
9. forehead
10. distant
11. anger
12. vacant
13. appearance
14. speechless
15. region
16. slumber
17. future
18. claimed
19. common
20. dainty

1. cushion
2. generally
3. extended
4. custom
5. tailor
6. haze
7. gracious
8. dignity
9. terrace
10. applause
11. jungle
12. fragrant
13. interfere
14. marriage
15. profitable
16. define
17. obedient
18. ambition
19. presence
20. merchant

1. installed
2. importance
3. medicine
4. rebellion
5. infected
6. responsible
7. liquid
8. tremendous
9. customary
10. malicious
11. spectacular
12. inventory
13. yearning
14. imaginary
15. consequently
16. excellence
17. dungeon
18. detained
19. abundant
20. compliments

1. administer
2. tremor
3. environment
4. counterfeit
5. crisis
6. industrious
7. approximate
8. society
9. architecture
10. malignant
11. pensive
12. standardize
13. exhausted
14. reminiscence
15. intricate
16. contemporary
17. attentively
18. compassionate
19. complexion
20. continuously

1. prairies
2. evident
3. nucleus
4. antique
5. twilight
6. memorandum
7. whimsical
8. proportional
9. intangible
10. formulated
11. articulate
12. deprecate
13. remarkably
14. contrasting
15. irrelevance
16. supplement
17. inducement
18. nonchalant
19. exuberant
20. grotesque

1. traverse
2. affable
3. compressible
4. excruciating
5. pandemonium
6. scrupulous
7. primordial
8. chastisement
9. sojourn
10. panorama
11. facsimile
12. auspicious
13. contraband
14. envisage
15. futility
16. enamoured
17. gustatory
18. decipher
19. inadequacy
20. simultaneously

SCHONELL GRADED WORD SPELLING TEST A

Standards for Administration

1. The fish was caught in the net.
2. Can you do this?
3. Did you have fun in the swimming pool?
4. The pot is on top of the stove.
5. Use the rag to dust the furniture.
6. She sat in the chair.
7. Hank Aaron hit another home run.
8. Put the lid on the counter.
9. He wore a red cap.
10. The cat had five kittens.
11. Mother will not let me go outside tonight.
12. The girl had a doll in the carriage.
13. The bell rang in the church.
14. Yes I can go to the park.
15. First finish your homework then you can watch T.V.
16. May I help you?
17. The leaves on the tree are turning color.
18. The policeman walked by the bank.
19. Sally is ill today.
20. Did you get an Easter egg?
21. The airplane is going to land in the field.
22. How are you today?
23. Where is your coat?

24. The weather is cold today.
25. Don't talk so quickly please.
26. What kind of flower do you like?
27. Mrs. Jones has one son.
28. They seem to like their new car.
29. The Maple Leafs scored four goals.
30. The noise is too loud.
31. There are many leaves on the ground.
32. What is your lowest mark this year?
33. A person's brain is divided into two hemispheres.
34. Please write soon.
35. What is the amount of the bill?
36. Those motorcycles are making a terrible noise.
37. I will remain here while you call the ambulance.
38. I had hoped you would come sooner.
39. Don't worry about it.
40. Bill and Sue are dancing the polka.
41. You damage the desk when you write on it.
42. Who else is going to the football game?
43. The baseball went through the windshield.
44. The queen entered the ballroom.
45. When did you get that terrible cough?
46. I am going to the tailor to be fitted for a new suit.
47. Where is the spare tire?
48. Mr. Smith has one daughter.
49. The car was on the edge of the road.

50. Please help me search for Bimbo.

51. Did you enjoy the concert last night?

52. CP Air and Air Canada fly the domestic routes in Canada.

53. What is the topic of your presentation?

54. What method are you using to solve the problem?

55. When it is 32°F, the water will freeze.

56. Are you trying to avoid taking out the garbage?

57. What duties are you responsible for around the house?

58. Have you seen the most recent James Bond movie?

59. Do you know how to type?

60. For instance, this spelling test is an exam.

61. When a solid melts it turns to a liquid.

62. Are you going to assist me with the experiment?

63. To get on the bus your change must be readily available.

64. Let me see if I can guess your age.

65. Attendance in school is very important.

66. Can you give me a description of the car?

67. The City of Edmonton is responsible for the welfare of its residents.

68. There are various ways of studying for the science test.

69. This wallet is made of genuine rawhide.

70. You cannot interfere with the receiver before the ball is caught.

71. In accordance with the law I fine you twenty dollars and costs.

72. You have a great deal of mechanical ability.

73. Don't be too anxious to get finished.

74. I can't read your signature.

75. This month's allotment for entertainment is already used up.

76. I am submitting this report for your approval.

77. Hank Aaron has not quite accomplished the feat of Babe Ruth's 714 home runs.

78. If you buy your ticket now, there will be a remittance of one dollar.

79. The Can-Am was a financial success this year.

80. Clark Stadium has a seating capacity of 20,000.

81. You can buy a good tent at the surplus store.

82. John is an exceptionally smart student.

83. I hope you will be successful in achieving your goals.

84. The preliminary match lasted three rounds.

85. Oil is a great natural resource in Alberta.

86. The setting for the play was described in the prologue.

87. Captain Jones, I would like to introduce Colonel Wright.

88. That is a coarse piece of material.

89. I am referring to the man near the counter.

90. You must be courteous to olderly people.

91. Did you go to the exhibition this year?

92. He is affectionately known as "Dimples."

93. I need an attorney for the case.

94. Scoring sixty goals was the pinnacle of his career.

95. I received a toboggan for Christmas.

96. The teacher wants a more definite answer.

97. The T.V. has a one-year guarantee.

98. They are celebrating their tenth anniversary.

99. "Call me irresistible" is one of the older songs.

100. Don't touch the hydraulic lever.

APPENDIX C

ABLE STANDARDIZATION DATA

Adult Basic Learning Examination— Form A, Level I and II

Preliminary research on the ABLE was conducted with three separate groups having quite different characteristics. The School Group was employed primarily to relate achievement to school children and provide an index of "gradedness." The Job Corps represents the similar groups of young adults whose educational experience is of concern. The Hartford-New Haven Group is probably typical of adult groups enrolled in basic education programs in metropolitan areas. For a specific description of all the groups, see the ABLE Handbook, pp. 36-37.

Reliability data presented in the Handbook show split-half (odd-even) reliability coefficients corrected by the Spearman-Brown Formula.

	Level I		Level II	
Group	Vocab.	Rdg.	Vocab.	Rdg.
School: Grade 3, Grade 6	.87	.93	.75	.90
Job Corps	.85	.96	.82	.89
Hartford-New Haven	.91	.98	.91	.94

These results indicate the tests seem to be providing fairly reliable measures of the various skills tested by ABLE.

Correlations obtained between ABLE tests and various subtests of the Stanford Achievement Test with the School Group were as follows:

	Level I		Level II	
SAT	Vocab.	Rdg.	Vocab.	Rdg.
Word Meaning	.60	.61	.65	.71
Paragraph Meaning	.61	.62	.70	.76

ABLE—Form A, Level III

The ABLE—III was administered to eight groups of adults, ranging from Grade 10 to Grade 12 students to Vocational Training adult students.

The reliability data as obtained from the various groups (described in depth in the Handbook) were determined using Kuder-Richardson Formula 21 and range on the Vocabulary test from .83 to .96. The range on the Reading test, Form A is from .80 to .95.

Correlations showing validity were examined and found satisfactory. The Stanford Achievement Test (SAT)—Reading test and the ABLE—Reading test correlations ranged from .65 to .75. The SAT—Reading and ABLE—Vocabulary test correlations ranged from .61 to .73.

APPENDIX D

ORAL READING PARAGRAPHS AND COMPREHENSION QUESTIONS

TRUE STORY OF MINNIE

I am glad I met Minnie. She was a real help to me. And I needed help!

I met her in Garden City ten years ago. I had no work then, and no friends. My money was almost gone. What could I do?

But I DID have a friend. It was the man who owned the small house where I lived.

Mr. Field was a kind little old man. His eyes, bright as a fox's, saw that I was not happy.

"Things are not going well, are they?" he asked. "Would you like to tell me what is the matter?"

"I can't pay for the house this month," I said. "You see, I have no work."

"Too bad," he answered. "I think it is time for you to meet Minnie."

"Who is she?" I asked.

He reached into his pocket.

Adapted from Reader's Digest Workers in the Sky (p. 9).

THE MAN BEHIND FROZEN FOODS

The name Birds Eye is known to almost everyone. You see it often on boxes of frozen food.

Put the two words together. You have Birdseye—a man's name. In this story you will meet Clarence Birdseye, who first brought us frozen foods. Almost alone, he made life easier for all of us. Think how much work it is to peel vegetables!

At age 26, Mr. Birdseye went to the Far North. There he bought and sold furs. In five years he traveled about 10,000 miles by dog sled.

Like the Eskimos, Mr. Birdseye froze his meet to keep it. He found that meat frozen in winter was better than meat frozen in spring or fall. "Why?" he asked himself. He guessed the answer. Meat frozen in deep cold is quick-frozen. It is more nearly like fresh meat.

In 1924, Mr. Birdseye first put frozen food into stores. He tried to sell boxes of quick-frozen fish. But people were afraid to buy. They thought the fish would not be good to eat.

Soon Mr. Birdseye went broke. So he asked a few men with money to help him start a new company. From then on, things went well. People got over being afraid to buy frozen foods. They asked for more and more kinds.

In 1929, Mr. Birdseye sold his business. The price was $22,000,000!

Adapted from Reader's Digest Mystery of the Mountains (p. 25).

JOHNNY APPLESEED

More than a hundred and fifty years ago John Chapman traveled west. He walked when no one gave him a ride. He came to help the people who had settled in Ohio—the pioneers. They were just starting new farms. They were clearing the land and building log houses. They were making roads through the wilderness. Other pioneers would follow them.

John came bringing gifts to the pioneers. His gifts were apple seeds, as well as various plants to use for medicine. In his ragged old clothes he was a strange sight. But when he opened his bag of treasures he was more than welcome.

The pioneer women gladly planted the seeds. They listened when John told them how to tend the young seedlings. Year after year he went back to Ohio to help the pioneers. Later, when apples hung on the trees, the pioneers were grateful to John. They fondly called him "Johnny Appleseed."

Source: Gates-Peardon Exercises. Prepatory—Level B, #13.

THE BLOODHOUND

Most dogs have a keen sense of smell, but one breed outstrips all the others. This is the bloodhound. He is a large dog; some full-grown bloodhounds weigh as much as a hundred pounds. His ears are long and droopy and velvet-soft; his coat is usually black with tan markings. Strange wrinkles running down between his big sad eyes and along his cheeks make him look old and wise.

A bloodhound must spend a year with the police to be trained to search for lost persons. Now and then he also tracks escaped criminals. A bloodhound can follow a scent that is as much as four hours old, and has been known to find a lost person even after two days. The police let the dog smell some piece of wearing apparel belonging to the missing person and start him from the spot where the person was last seen. The animal's sensitive nose can pick up a trail from grass over which the person has walked, or from bushes against which he may have brushed. Often bloodhounds work in pairs. They work silently and very fast.

Source: Gates-Peardon Exercises. Intermediate—What is this story about? #36.

SILKWORMS

One type of rather large white moth found in China and Japan lays from two hundred to five hundred eggs early in the summer. These eggs are carefully guarded in a silk factory until the next spring, when they hatch into tiny silkworms. Factory workers place the worms on large trays and feed them mulberry leaves. The hungry silkworms eat steadily for about five weeks. By then they are about three inches long.

When the workers see the little heads begin to move back and forth, they know that the new silkworms are ready to spin their cocoons. Each worm is gently placed on a little twig. Out of its mouth pours a thin juice. As this juice hits the air it hardens into silk thread which it tosses round and round its body to make a cocoon. When the cocoon is finished, it may contain anywhere from five hundred to twelve hundred yards of beautiful silk thread. This thread must be unwound carefully, so that it will not be broken.

Source: Gates-Peardon Exercises. Elementary—What is this story about? #41.

RINGS

The earliest rings known are those found in the tombs of ancient Egyptians. For the Pharaohs, a ring was a symbol of eternity—life and love and happiness were like a circle which had no beginning and no end. It was probably the Romans who began the custom of wearing a ring to signify engagement or "betrothal." Both Greek and Roman women wore rings of bronze, copper, brass, and even iron. Jeweled engagement rings have been worn by the wealthy since very early times; the diamond was already established as the most popular engagement stone in fourteenth-century Venice. Both husband and wife may wear wedding rings. There is an old belief (quite unfounded) that a vein runs directly from the third finger of the left hand to the heart; that is why, when the bridegroom says, "With this ring I thee wed," he places the wedding ring on that finger.

Adapted from: Gates-Peardon Exercises. Advanced—What is the selection about? #10

ORAL READING PARAGRAPH QUESTIONS

True Story of Minnie

1. Where did the writer meet Minnie?
2. Why was the writer glad he met her?
3. How would you describe Mr. Field?
4. What worries did the writer have?
5. Who do you think Minnie was?

The Man Behind Frozen Foods

1. Who was the originator of frozen foods?
2. What was Mr. Birdseye's occupation in the Far North?
3. What does quick-frozen mean?
4. Approximately when was frozen food first introduced to stores?
5. Why do you think the newly-formed company was a success?

Johnny Appleseed

1. Was Johnny Appleseed his real name?
2. What was his means of traveling?
3. What other gifts besides appleseeds did he bring?
4. Who gave him the name Johnny Appleseed?
5. Why do you think the pioneers were grateful?

The Bloodhound

1. About how heavy can a Bloodhound become?
2. What color coat does he have?
3. What makes the bloodhound look old and wise?
4. How do the police indicate to the dog the scent he is to follow?
5. How do you think the bloodhound got his name?

Silkworms

1. Where is the silkworm found naturally?
2. What do the silkworms eat?
3. How is the silk thread of the cocoon made by silkworm?
4. Approximately how much thread is in a cocoon?
5. Why do you think silkworms are kept in factories?

Rings

1. Where were the earliest rings found?
2. What metals were ancient rings made of?
3. Who began the custom of engagement rings?
4. How did the third finger of the left hand come to be the one for the wedding ring?
5. Why was the ring used as a symbol of eternity?

APPENDIX E

READING PROCESS TESTS

ALTA-BOYD TEST OF PHONIC SKILLS

Directions: The examiner presents a card containing the nonsense word which the subject is asked to read. The response is recorded exactly.

Part I: Initial and Final Consonants and Short Vowel Sounds

	Initial C	Vowel	Final C
1. bam			
2. dor			
3. fet			
4. hus			
5. kon			
6. vip			
7. lod			
8. yeb			
9. sem			
10. cul			
11. jeg			
12. nid			
13. gud			
14. mip			
15. rab			
16. pag			
17. tif			
18. weg			

Part II: Consonant Blends, Final Consonants and Short Vowel Sounds
(These consist of two or three consonants which occur together in print. The sounds which represent them are blended together but can be heard separately.)

	Blend	Vowel	Final C
1. clup			
2. fron			
3. gris			
4. tran			
5. swed			
6. cron			
7. glit			
8. stris			
9. blam			
10. bret			
11. flim			
12. skod			
13. slan			
14. plam			
15. spet			
16. quin			

Part III: Consonant Digraphs
(These consist of two consonants which occur together in print but which are represented by only one speech sound)

1. chas		
2. shan		
3. thob		
4. whes		
5. rath		
6. mosh		

8

Part IV: Hard and Soft C and G
(When C and G precede the vowels a,o,u, they have the hard sounds of /k/ and /g/ respectively. When they precede the vowels e,i,y, they have the soft sounds of /s/ and /j/.

1. gon		
2. cof		
3. gam		
4. cil		
5. cet		
6. gip		
7. cam		

Part V: Phonograms
(These consist of common endings of English words)

1. hing			6. mell		
2. mang			7. dight		
3. fink			8. tation		
4. vill			9. kound		
5. dank					

Part VI: Silent Letters

1. knet	
2. pnan	
3. wrat	
4. knid	
5. gnop	

Part VII: Final E Rule
(When E occurs at the end of a word it is usually silent and the preceding vowel has a long sound (its name)

1. nobe		
2. rafe		
3. sebe		
4. tife		
5. hute		

Part VIII: Vowel Digraphs and Vowel Dipthongs
(Two vowels which occur together in print. The vowel digraph has one sound (usually the long sound of the first vowel). The dipthong is represented by a blend of two sounds (oi, oy, ou, ow)

1. noaf	
2. leet	
3. doil	
4. fain	
5. keat	
6. boe	
7. moy	
8. kay	
9. soun	

Part IX: Controllers

(The letters r, l, w, control or modify the short vowel sounds)

1. sart		
2. forn		
3. dir		
4. dar		
5. sall		
6. faw		
7. karn		
8. lirt		
9. murst		

Part X: Sounding Multisyllable Words
(If a child pronounces two syllables with the division at the middle consonant he is considered correct, regardless of vowel sound.)

1. tapod		9. ponted		
2. higtat		10. dabbet		
3. setin		11. delrim		
4. lundle		12. hogam		
5. dadle		13. duggle		
6. himut		14. fumdol		
7. vifted		15. nusig		
8. posrud				

Part XI: Use of Syllabic Rules
(The pupil is asked to divide these words into syllables by drawing lines to separate the syllables.)

1. nubinto		7. cluppas		
2. limmobe		8. illummas		
3. allomutly		9. teepmot		
4. frintonna		10. utasmir		
5. iniptir		11. halloner		
6. hapter		12. callimotle		

HUELSMAN WORD DISCRIMINATION TEST
FORM B—ALTA

NAME ______________________ SCHOOL ______________________

DATE TODAY ______________________ BIRTH DATE ______________________
(Year) (Month) (Day) (Year) (Month) (Day)

AGE ______________________ GRADE ______________________
(Years) (Months)

DIRECTIONS:

Look at the word in the left-hand side of the paper. Find this word amongst the groups of letters to the right and draw a circle around it.

EXAMPLE 1:

1.	the	eht	tle	the	thc	lhe
2.	look	lk	loo	ook	look	tooh
3.	in	in	ni	iin	ir	ih
4.	pig	pid	qig	pig	piig	pag
5.	is	es	iss	iis	sl	is

Begin on the next page. You will be given two minutes to do as many of the exercises as you can.

HUELSMAN WORD DISCRIMINATION TEST—FORM B—ALTA—PAGE 2

1.	go	ga	go	gc	ge	po
2.	two	lwo	hwo	gwo	two	kwo
3.	and	dna	ond	onb	and	aub
4.	boat	boat	boal	boah	boet	baot
5.	come	kum	cemo	cowe	come	ome
6.	make	mafe	melse	make	mame	mako
7.	ball	balh	bafl	ball	dall	bael
8.	play	ptay	plav	play	piay	layp
9.	house	nouse	huose	honse	touse	house
10.	down	bown	domn	down	dcwn	dwon
11.	where	wnere	where	wlere	wtere	wkere
12.	funny	funnv	fnuuy	funry	lunny	funny
13.	find	tind	find	flnd	fird	finb
14.	black	lbokc	blax	black	blaek	ckabl
15.	fun	nuf	fnu	fun	lun	fune
16.	came	ame	came	cam	cawe	emac
17.	our	uor	oun	eur	our	aur
18.	soon	sooh	soom	soon	scon	sune
19.	home	kome	hcme	houm	howe	home
20.	good	gocd	goob	doog	good	gued
21.	there	there	threr	tere	ther	ereht
22.	rabbit	rabbil	rabbit	rebbit	robbit	bitrab
23.	thank	ankth	thank	thamk	tkanh	thauk
24.	hen	nem	hon	uey	hen	neh
25.	please	glease	please	plase	plcasc	phease

HUELSMAN WORD DISCRIMINATION TEST—FORM B—ALTA—PAGE 3

26. went	went	wcnt	weht	wenf	ment
27. pretty	pnetty	prettv	ytterp	typret	pretty
28. white	vhite	wlite	whife	wnite	white
29. happy	haggy	happv	pyhap	happy	yppah
30. new	nem	wen	new	ncw	uew
31. guess	gness	guoss	guss	guess	gess
32. farm	tarm	fanm	armf	farm	fram
33. under	under	derun	unber	unden	undr
34. friends	frienbs	fneirds	frionds	friens	friends
35. lady	lady	laby	ladi	ladv	dyla
36. deep	deeq	deep	beed	beeq	decp
37. queer	pueer	queer	pneer	reeuq	qneer
38. done	doue	doen	oned	done	dohe
39. flour	flour	fuor	fluor	flur	ourfl
40. wonder	wouber	wonder	wouder	wonber	wondre
41. older	olber	oldre	older	odler	dolre
42. roar	raor	rore	ror	nora	roar
43. biggest	biggst	biggess	biggest	diggest	bigest
44. obey	odey	obay	opey	oday	obey
45. twinkle	tminkle	twinkle	twiukle	twinhle	eltwink
46. trouble	trouble	troble	troulbe	treuble	tnouble
47. puppet	quppet	pnppet	puppeh	teppup	puppet
48. peeked	dekeep	deekep	qeeked	peekeb	peeked
49. center	retenc	ceneter	center	chenter	cemter
50. cousin	cousim	sonsiu	ceusin	nisuoc	cousin

N.B. As the remaining items #51-96 were not used in the study, they were not included here.

MONROE DIAGNOSTIC READING EXAMINATION

TEST 8—Word Discrimination

Directions: A card is presented to the subject containing the following words presented amidst distractors. The subject is asked to point to the word called.

on
dog
card
sung
saw
bed
not
milk

mouth
repast
squirt
scared
butterfly
burn
should
possible

made
me
ever
with
trick
tree
fire
ball

split
purse
who
for
his
floor
rule
done

tap
part
clam
spot
tend
plea
bread
parlor

left
short
society
twilight
embraced
dangerous
proportion
Total correct

BOND-CLYMER-HOYT SYLLABICATION—TEST 5

Directions: Draw a line between syllables, the parts you see and hear in these words.

Examples:

A. along

B. baseball

C. forgotten

---

1. ever
2. reading
3. lively
4. action
5. devote
6. every
7. under
8. written
9. sweetness
10. suburb
11. enormous
12. surround
13. remainder
14. prescribe
15. signature
16. moccasins
17. moment
18. porcupine
19. banana
20. transportation
21. generation
22. agricultural
23. observation
24. interested

CLOZE #1

About a thousand windmills ________ be seen in the ________ of Holland. Their great ________, or sails, turn round ________ round in the wind. ________ of all these windmills ________ used to pump water ________ the land. The rest ________ for farmers, chiefly to ________ corn.

In April and ________, people from all over ________ world visit Holland to ________ the tulips in bloom. ________ and acres of these ________ flowers look almost like ________ rugs spread on the ________.

Most of the people ________ live in Holland dress ________ as we do. But ________ of the farmers and ________ children still wear wooden ________ in the fields, to ________ their feet dry. They ________ wear wooden shoes inside ________ houses. So you can ________ rows of them left ________ the front door.

Adapted from: Gates-Peardon Exercises. Prepatory—Level B, #5
Let's Look at Holland.

CLOZE #2

A beaver doesn't have ________ climb to the top ________ trees to get at ________ tender bark and juicy ________ which he loves to ________. Nature has given him ________ teeth with which he ________ cuts the whole tree ________. In each jaw he ________ two long, pointed teeth ________ sharp cutting edges. With ________ tool a beaver gnaws ________ ring around a small ________ and has it on ________ ground in a few ________. Although he wears down ________ teeth, they continue to ________ all his life.

Nature ________ also provided the beaver ________ a special kind of ________ between the toes of ________ hind feet. This helps ________ to swim quickly away ________ an enemy. His broad, ________ ten-inch tail looks like ________ end of a boat ________. He uses it to ________ himself when swimming, to ________ the water hard as ________ signal to other beavers ________ danger is near.

Adapted from: Gates-Peardon Exercises. Elementary—What is this story about? #23.

CLOZE #3

Before 1850 there were ________ trains in Canada. People ________ on foot, by horse ________ buggy, or by boat. ________, once they had travelled ________ train, people didn't want ________ return to the old ________, especially for long trips. ________ so more and more ________ were laid and trains ________ built.

The early passenger ________ had open cars, usually ________ painted. The engines were ________ with an array of ________, lights, and smokestacks. The ________ took pride in his ________ and was considered a ________ hero by the ladies ________ the time.

The early ________ of railroading were dangerous ________ in train travel. Little ________ known about safety. Collisons ________ common because there were ________ signal lights. If a ________ occurred in the rails, ________ train often jumped the ________. Even if the engineer ________ the danger, he seldom ________ stop the train in ________ to avoid it. The ________-operated brakes were difficult ________ pull, and it took ________ long time to slow ________ wheels. There were so ________ accidents in the early ________ of the railroads that ________ were often afraid to ________ a train ride.

Adapted from: Open Highways, Level 5, pp. 243-244.

CLOZE #4

Australia is a land ________ violent contrasts. When it ________ the drops beat ________ thunder on the iron ________ of the houses; rivers swell ________ the rising waters ________downward and fierce torents ________ everything in ________ path. Sometimes there are ________ and people look longingly ________ at a sky of ________ blue for month after ________, perhaps year after year. ________ a while the ________ begins to die and bushfires ________. The oily eucalyptus, ________ huge and beautiful gum ________, burst into flame ________ enormous fireworks. ________ the fire does ________ destroy the trees, ________ pests may come and ________ every tiny green ________ and make life a misery ________ man and beast.

In ________ of this climatic ________, you must not think ________ life in the bush ________ dreadful. To those ________ were born there, ________ nights when the Southern Cross ________ low in the sky, ________ you listen to the ________ kaa-kaa-ing of the possums, the ________ of night birds ________ the sad yodeling ________ of the dingoes, ________ up for all the ________.

Adapted from: Gates-Peardon Exercises. Advanced—What is the selection about? #18 Australia by Mary Elwyn Patchett, p. 36.

APPENDIX F

READING CORRELATES TESTS

MONROE-SHERMAN APTITUDE TESTS

VISUAL LETTER MEMORY SUBTEST

Directions: The teacher will show you a card on which is printed a nonsense word. Study the word until the teacher removes the card. Then write as much of the nonsense words as you remember.

Show each card 5 seconds.

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1. ag
2. bo
3. nup
4. fow
5. grel
6. afet
7. malde
8. wibry
9. cunerf
10. kignel
11. smontir
12. doponas
13. rilamerp
14. chiolary
15. etorakubo
16. snelerith
17. pirnocklan
18. tidosolixt

Score ____________________
(Number of nonsense words correct)

	Age							
Percentile	8	9	10	11	12	13	14	15+
90	12	14	15	16	17	17	17	18
80	11	13	14	15	16	16	16	17
70	11	12	13	15	15	16	16	17
60	10	11	13	14	14	15	15	16
50	9	11	12	13	13	14	14	15
40	9	10	11	13	13	13	13	14
30	8	9	10	12	12	13	13	14
20	8	8	9	11	12	12	12	13
10	7	7	7	8	9	10	10	11

DETROIT TEST OF LEARNING APTITUDE: TEST 13

AUDITORY ATTENTION SPAN FOR RELATED SYLLABLES

Procedure: Say, "I am going to say something to you. When I get all through you say just what I said." Say each sentence slowly and distinctly. Do not repeat. After each sentence, allow time for the pupil to repeat it. Start with sentences where success is obvious, continue until there are three sentence failures in succession. Record responses below.

1. My doll has pretty hair.
2. We will go for a walk.
3. My dog chases the white cat.
4. Our new car has four red wheels.
5. Henry likes to read his new book.
6. Bring the broom and sweep the front room.
7. The bell on the engine rings loudly.
8. On Sundays all of us go to church.
9. In summer we go North where it is cool.
10. Green leaves come on the trees in early spring.
11. The airplane makes a loud noise when it flies fast.
12. We saw a little fire on the way to school.
13. The sun shone brightly today and it hurt my eyes.
14. The men painted our new house white with dark green blinds.
15. They gave me some pretty shoes for my birthday last month.
16. The art teacher comes to our own school three days a week.
17. Ten persons went to a party where there was lots to eat.
18. Three boys spent a happy day last week on a fishing trip.
19. On Tuesday for lunch we had some fresh bread which our mother baked.

20. Father must buy some new licence plates for his car once each year.

21. When the train passes the whistle blows for us to keep off the track.

22. In the summer time the nights are very short and the days are long.

23. We had a party for Jean last Monday with cake and ice cream to eat.

24. At eight we go to bed and mother reads to us from our story books.

25. Each year when the big circus comes to town father takes the whole family.

26. Many boys and girls go to the movies on nights at the end of each week.

27. My sister Mary has a pretty new doll which shuts its eyes and goes to sleep.

28. The man who lives next door is a good neighbour and invites us for many rides.

29. Last winter we made a big round snow man and put a little black hat on his head.

30. In my uncle's home there was a soft red carpet on the floor of the living room.

31. The day of the football game the weather was clear but chilly and the wind blew briskly.

32. Because there were few vacant lots, the police roped off our street so that we might be safe.

33. On the Fourth of July my father puts on his army suit and joins his friends on parade.

34. In fair weather and at high tide ships from many nations set sail for their own distant ports.

35. The baseball team from our high school played fifteen games; they lost six but they ended in second place.

36. Last night there was a large banquet at the hotel where many people dined and had a pleasant time.

37. Our reading books at school have many fine stories which are short but very full of life and action.

38. In the north country the days are very short in winter and the sun hangs low in the southern sky.

39. China closets filled with all kinds of dainty dishes and cut glass lined the large walls of the dining room.

40. On cold, clear nights hundreds of thousands of twinkling stars shine brightly from their cradles far up in the sky.

41. In the heart of the Congo there are many kinds of beasts which are a nightly terror to the black natives.

42. Down near the bank of the river is an estate from which sound the shouts of happy children hour after hour.

43. Each four years voting takes place which results in many men being placed in office for terms of two years or more.

Score ________________________

Scoring: Three points for each sentence with no errors.

Two points for each sentence with one error of any type.

One point for each sentence with two errors of any type.

No credit for each sentence with three or more errors of any type or combination of types.

The three types of errors are:

(a) a word omitted; (b) a word added; (c) an unsuitable word substituted.

ORAL LANGUAGE TEST #1

(This passage was read to the subject, who was then asked to retell the story.)

In the jungles of Africa chimpanzee families live together in villages or bands of about forty. Each family has its nest in a tree and travels by swinging from branch to branch. Most of the time, however, chimpanzees stay on the ground. They eat fruit and vegetables as we do, but also birds' eggs and insects.

The bones, nerves, and muscles of a grown chimpanzee are much like a man's, but this animal does not stand as tall or weigh as much as a man. Its arms are long and strong. The fingers of its hands are nearly twice as long as the thumb. The big toe on each foot is more like a thumb than a man's straight toe. While the body of a chimpanzee is covered with thick black fur, its face and the palms of its hands have the same flesh-colored skin as man's.

The brain of a chimpanzee is smaller than a man's, but it is still the smartest of all four-footed animals. When captured, it can be trained to drink milk from a glass, use a knife and fork to get its food, ride a bicycle, and insert coins to get food out of a machine. But never has it learned to talk!

Source: Gates-Peardon Exercises. Intermediate—What is this story about? #45.

ORAL LANGUAGE TEST #2

(This passage was read silently by the subject, who was then asked to retell the story.)

It happened on April 14, 1912, in the middle of the Atlantic Ocean. The time was 11:40 on a clear, starry night. The S.S. Titanic, splendid new ship of the White Star Line, was racing full speed ahead on her first voyage from Southhampton to New York. To try to beat the record for the fastest crossing, the Captain had taken the northern route, which most ships did not use at that time of the year because of icebergs. Suddenly there was a grinding crash! The Titanic had hit an iceberg. Nine hours later the new "unsinkable" ship was at the bottom of the sea, carrying more than fifteen hundred people to their death.

As a result of this disaster England and the United States set up the International Ice Patrol. Coast Guard ships now watch for floating icebergs and study their size and shape. Winter sea lanes have been moved farther south. All ships must now carry enough life preservers and lifeboats for all people on board. These the Titanic did not have. Perhaps most important of all, people learned that no ship is "unsinkable."

Source: Gates-Peardon Exercises. Intermediate—What is this story about? #43.

ORAL LANGUAGE TEST #3

(This passage was used as an alternate if one of the previous passages proved too difficult.)

Every spring millions of salmon leave the Pacific Ocean and swim miles upstream to lay their eggs in the quiet, shallow waters of the upper Columbia River. No matter how difficult the journey is, the salmon persist in going. They may travel ten to twenty miles a day, swimming against the current, battling the swift rapids, or jumping waterfalls ten feet high. But when Booneville Dam was built it formed a barrier 197 feet high, and no salmon could cross it.

Engineers soon saw that they had interfered with the plans of nature, so they constructed a "fish ladder" at each side of the dam. This is a sloping ladder about forty feet wide. Water flows slowly across it, forming shallow pools at each side. The fish quickly learned to leap up one step, swim across it, and leap up to the next. They continue this until the top of the dam is reached.

Source: Gates-Peardon Exercises. Intermediate—What is this story about? #15.

WRITTEN LANGUAGE TEST
(Syntactic Maturity Test)

Aluminum

Directions: Read the passage all the way through. You will notice that the sentences are short and choppy. Study the passage, and then rewrite in a better way. You may combine sentences, change the order of words, and omit words that are repeated too many times. But try not to leave out any of the information.

Aluminum is a metal. It is abundant. It has many uses. It comes from bauxite. Bauxite is an ore. Bauxite looks like clay. Bauxite contains aluminum. It contains several other substances. Workmen extract these other substances from the bauxite. They grind the bauxite. They put it in tanks. Pressure is in the tanks. The other substances form a mass. They remove the mass. They use filters. A liquid remains. They put it through several other processes. It finally yields a chemical. The chemical is powdery. It is white. The chemical is alumina. It is a mixture. It contains aluminum. It contains oxygen. Workmen separate the aluminum from the oxygen. They use electricity. They finally produce a metal. The metal is light. It has a luster. The luster is bright. The luster is silvery. This metal comes in many forms.

(Fagan et al., 1975, p. 201)

Syntactic Maturity Test Norms

	T-Unit Length				
	Grade 4	Grade 6	Grade 8	Grade 10	Grade 12
Low Group	5.23	5.73	7.55	9.61	10.17
Middle Group	5.21	7.34	10.34	10.46	11.45
High Group	5.81	7.47	11.66	11.66	12.30
All Groups	5.42	6.84	9.84	10.44	11.30

All groups norms were used for this study.